## **WESTFORD CARLISLE ROAD** TITLE SHEET & INDEX SHEET 1 OF 40

# TRANSPORTATION IMPROVEMENT PROJECT CARLISLE ROAD SIDEWALK IMPROVEMENTS

IN THE TOWN OF

WESTFORD

MIDDLESEX COUNTY

## 50% SUBMITTAL

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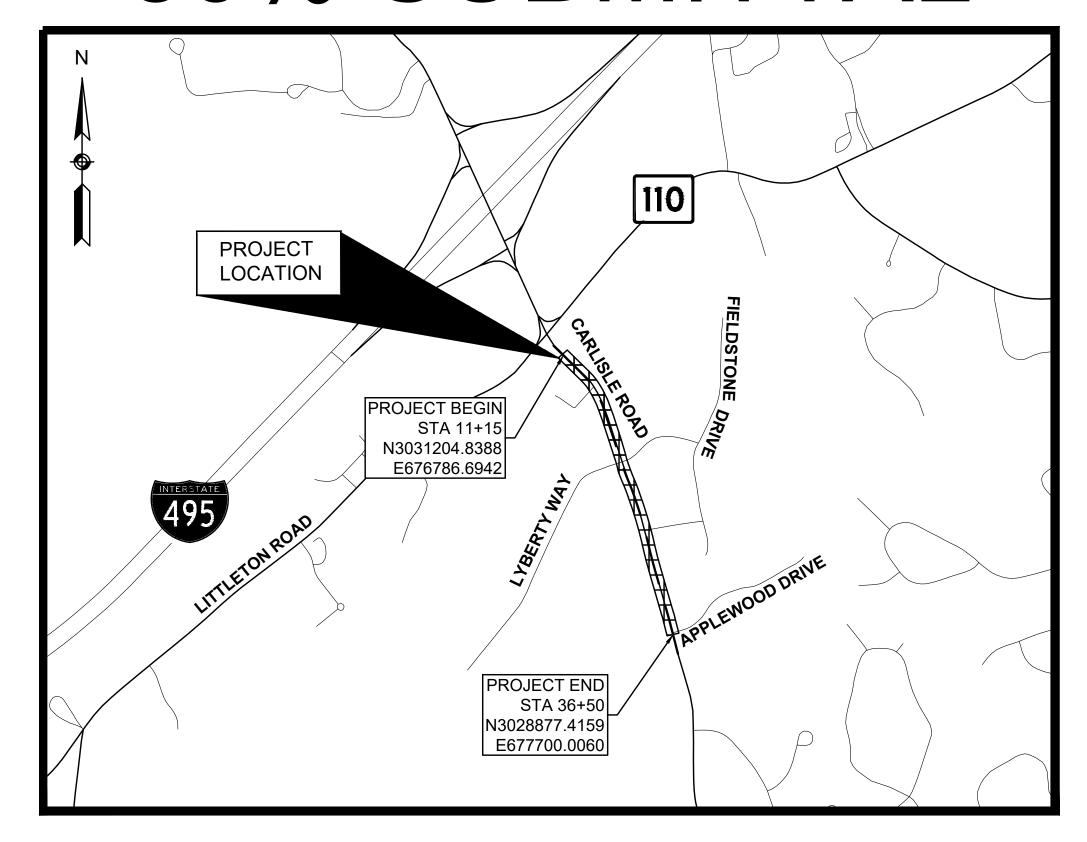
TRAFFIC SIGN SUMMARY SHEET

TRAFFIC SIGN & PAVEMENT MARKING PLANS

TITLE SHEET & INDEX

**KEY PLAN** 

17-18



SCALE: 1" = 800'

LENGTH OF PROJECT = 2,535 FEET = 0.480 MILES

05/21/2021	50% DESIGN	-
DATE	DESCRIPTION	REV#



146 Dascomb Roa Andover, MA 0181 978-794-1792
Andover, MA 0181
978-794-1792

ad | 311 Main Street 2nd Floor 508-868-5104

| 169 Ocean Blvd, Unit 3 PO Box 249 Worcester, MA 01608 | Hampton, NH 03842 603-601-8154

www.TheEngineeringCorp.com

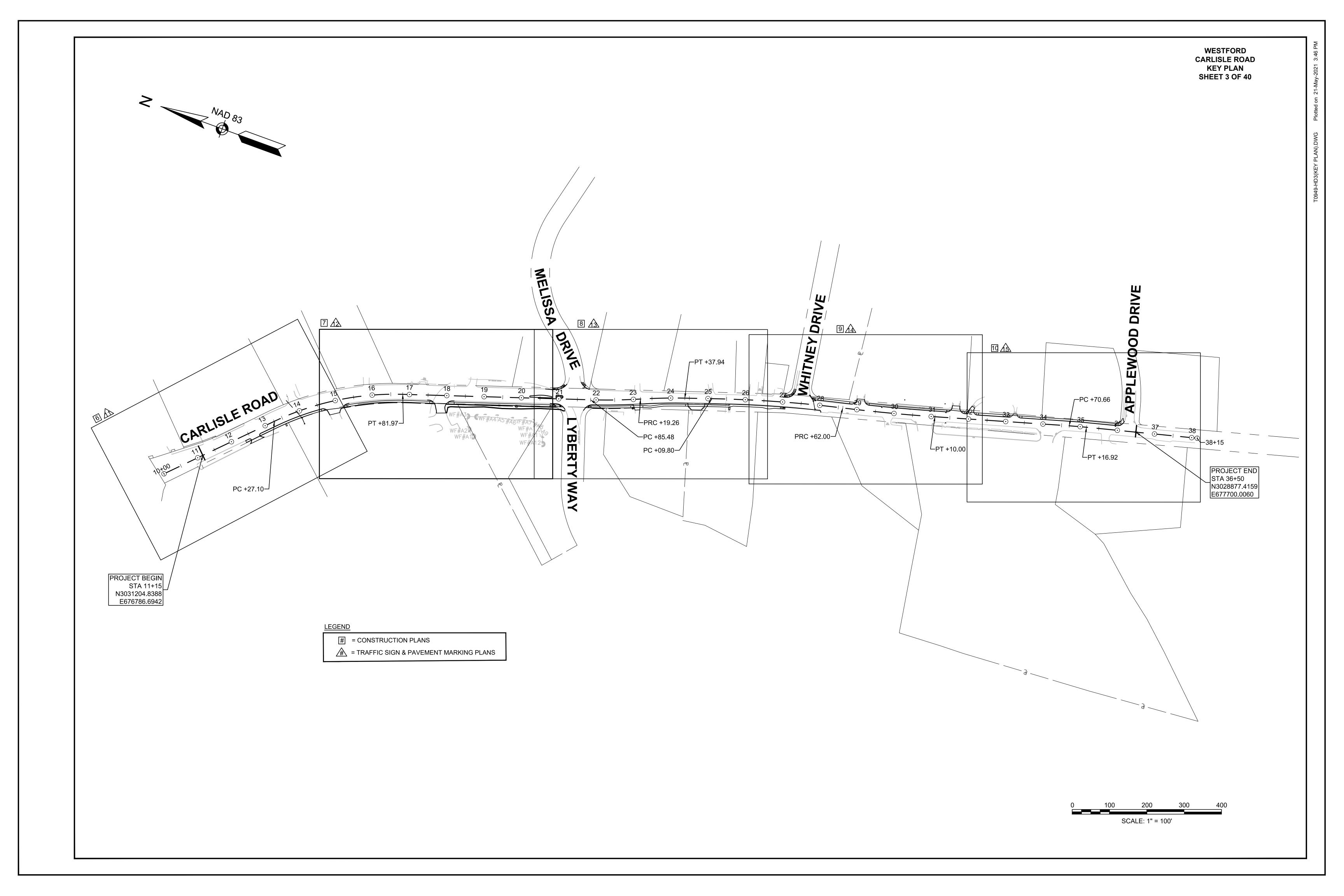
DESIGNED BY JPZ	CHECKED BY JAR	<b>DATE</b> 05/21/2021
DRAWN BY SPL/JP7	APPROVED BY  JAR	PROJECT NO.

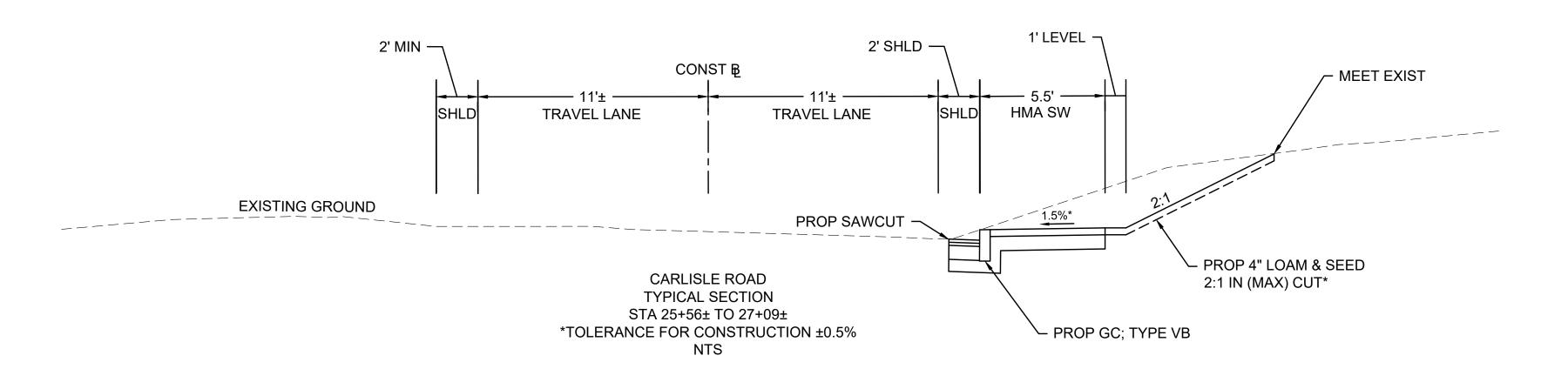
EXISTING  JB  GP  GP  GP  WELL  PH  OGG  WH  TP  CO.BD.  O  O  O  O  O  O  O  O  O  O  O  O  O	CBCI/GICI FP G GP MB O WELL BHH O G GG BHL#	JERSEY BARRIER CATCH BASIN OR GUTTER INLET CATCH BASIN OR GUTTER INLET W/ CURB INLET FLAG POLE GAS PUMP MAIL BOX POST SQUARE POST CIRCULAR WELL ELECTRIC HANDHOLE FENCE GATE POST GAS GATE BORING HOLE MONITORING WELL TEST PIT HYDRANT LIGHT POLE COUNTY BOUND GPS POINT CABLE MANHOLE DRAINAGE MANHOLE
FP GP MB O WELH O G # # # D. O BH MW P A BD. O B G G M G T W HB NON	CB/GI CBCI/GICI FP GP GP MB OWELH OG BHL# TP# OOO©©©©©©©	CATCH BASIN OR GUTTER INLET CATCH BASIN OR GUTTER INLET W/ CURB INLET FLAG POLE GAS PUMP MAIL BOX POST SQUARE POST CIRCULAR WELL ELECTRIC HANDHOLE FENCE GATE POST GAS GATE BORING HOLE MONITORING WELL TEST PIT HYDRANT LIGHT POLE COUNTY BOUND GPS POINT CABLE MANHOLE
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CO.BD.  CO.BD.  CO.BD.  CO.BD.  MARINE MARINE MON	(C)	COUNTY BOUND GPS POINT CABLE MANHOLE
© © © © W S T W HB MON	(D) (E) (G)	GPS POINT CABLE MANHOLE
© (D) (E) (G) (M) (S) (T) (W) HB MON	(D) (E) (G)	CABLE MANHOLE
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E G M S T W MHB MON	(E) (G)	
© M S T W MHB MON		ELECTRIC MANHOLE
© T W MHB MON		GAS MANHOLE
T W MHB MON	<u> </u>	MISC MANHOLE
W MHB MON	S	SEWER MANHOLE
<ul><li>MHB</li><li>MON</li></ul>	T	TELEPHONE MANHOLE
□ MON	<b>w</b>	WATER MANHOLE
	■ MHB	MASSACHUSETTS HIGHWAY BOUND
		MONUMENT STONE BOLIND
□ SB ■ TB		STONE BOUND TOWN OR CITY BOUND
■ TB		TRAVERSE OR TRIANGULATION STATION
	TPL or GUY	TROLLEY POLE OR GUY POLE
• HTP	11 2 01 00 1	TRANSMISSION POLE
-å- UFB	-& UFB	UTILITY POLE W/ FIREBOX
-∳- UPDL	-∳- UPDL	UTILITY POLE WITH DOUBLE LIGHT
_δ_ ULT	-&- ULT	UTILITY POLE W / 1 LIGHT
-o- UPL	-∽ UPL	UTILITY POLE
		BUSH
SIZE & TYPE		TREE
0		STUMP
<u> </u>	wo	SWAMP / MARSH
• WG	• WG	WATER GATE
<ul><li>WSO</li><li>PM</li></ul>	∘ WSO ∘ PM	WATER SHUTOFF/CURB STOP PARKING METER
	— — — —	OVERHEAD CABLE/WIRE
		CURBING
<u> 100 — 99 — — </u>		CONTOURS (ON-THE-GROUND SURVEY DATA)
<u> </u>		CONTOURS (PHOTOGRAMMETRIC DATA)
		UNDERGROUND DRAIN PIPE (DOUBLE LINE 24 INCH AND OVER)
<del>_</del>		UNDERGROUND ELECTRIC DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND GAS MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND SEWER MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND TELEPHONE DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND WATER MAIN (DOUBLE LINE 24 INCH AND OVER)
		BALANCED STONE WALL
		GUARD RAIL - STEEL POSTS
		GUARD RAIL - WOOD POSTS CHAIN LINK OR METAL FENCE
		WOOD FENCE
		SEDIMENT CONTROL BARRIER
		EDGE OF PAVEMENT
_		TOP OR BOTTOM OF SLOPE
_		LIMIT OF EDGE OF MICROMILLING AND OVERLAY
		BANK OF RIVER OR STREAM
		BORDER OF WETLAND
		100 FT WETLAND BUFFER
·		200 FT RIVERFRONT BUFFER
		STATE HIGHWAY LAYOUT
<del>_</del>		TOWN OR CITY LAYOUT
<del>_</del>		COUNTY LAYOUT
<del>_</del>		RAILROAD SIDELINE
		TOWN OR CITY BOUNDARY LINE
r	<b>_</b>	PROPERTY LINE OR APPROXIMATE PROPERTY LINE EASEMENT

EXISTING PROPOSED PAVEMENT ARROW - WHITE LEGEND "ONLY" - WHITE BIKE LANE LEGEND - WHITE SL STOP LINE CROSSWALK SWL SOLID WHITE LINE SYL SOLID YELLOW LINE BROKEN WHITE LINE BROKEN YELLOW LINE BYL BROKEN YELLOW LINE OF DOTTED WHITE LINE (3' LINE W/ 9' GAP) OF DOTTED WHITE LINE (3' LINE W/ 9' GAP)  DWLEX OF DOTTED WHITE LINE EXTENSION (2' LINE W/ 6' GAP)  DBWL DOUBLE WHITE LINE									
EXISTING PROPOSED DESCRIPTION  TRAFFIC SIGN (1 POST)  TRAFFIC SIGN (2 POST)   ***  ***  ***  ***  ***  ***  ***									
TRAFFIC SIGN (1 POST)  TRAFFIC SIGN (2 POST)	TRAFFIC SYME	BOLS							
EMENT MARKINGS SYMBOLS  EXISTING PROPOSED PAVEMENT ARROW - WHITE LEGEND "ONLY" - WHITE BIKE LANE LEGEND - WHITE SL STOP LINE CROSSWALK SWL SOLID WHITE LINE SYL SOLID YELLOW LINE BROKEN WHITE LINE BROKEN YELLOW LINE (3' LINE W/ 9' GAP) BUL BROWL BROWLES BROWL BROWL BROWLES BROWL	EXISTING	PROPOSED	DESCRIPTION						
PROPOSED  PROPOSED  PAVEMENT ARROW - WHITE  LEGEND "ONLY" - WHITE  SIL  STOP LINE  CROSSWALK  SWL  SOLID WHITE LINE  SYL  SOLID YELLOW LINE  BROKEN WHITE LINE  BROKEN WHITE LINE  BROKEN YELLOW LINE  BROKEN YELLOW LINE  "DWL  "DWL  "DWL  "DWL  "DWL  "DWL  "DWL  "DWL  "DWL  "DOUBLE WHITE LINE  DOUBLE WHITE LINE  DOUBLE WHITE LINE EXTENSION (2' LINE W/ 6' GAP)  DOUBLE WHITE LINE		_	TRAFFIC SIGN (1 POST)						
EXISTING PROPOSED PAVEMENT ARROW - WHITE LEGEND "ONLY" - WHITE  SL STOP LINE CROSSWALK SOLID WHITE LINE SYL SOLID YELLOW LINE BROKEN WHITE LINE BROKEN YELLOW LINE BYL BROKEN YELLOW LINE  "BYL BROKEN YELLOW LINE "BYL BROKEN YELLOW LINE "BYL BROKEN YELLOW LINE "BYL BROKEN YELLOW LINE "BYL BROKEN YELLOW LINE "BYL BROKEN YELLOW LINE "BYL BROKEN YELLOW LINE (3' LINE W/ 9' GAP) "DOTTED WHITE LINE (3' LINE W/ 9' GAP) "DOTTED WHITE LINE EXTENSION (2' LINE W/ 6' GAP)  DWLEX 6" DOTTED WHITE LINE EXTENSION (2' LINE W/ 6' GAP)  DBWL DOUBLE WHITE LINE	00	• •	TRAFFIC SIGN (2 POST)						
PAVEMENT ARROW - WHITE    LEGEND "ONLY" - WHITE									
EXISTING PROPOSED PAVEMENT ARROW - WHITE  LEGEND "ONLY" - WHITE  SL STOP LINE CROSSWALK SWL SOLID WHITE LINE  SYL SOLID YELLOW LINE  BROKEN WHITE LINE  BYL BROKEN YELLOW LINE  BYL BROKEN YELLOW LINE  "BYL BROKEN WHITE LINE (3' LINE W/ 9' GAP)  "DYL "BYL "BOTTED WHITE LINE (3' LINE W/ 9' GAP)  "DYL "BYL "BOTTED WHITE LINE (3' LINE W/ 9' GAP)  "DYL "BYL "BOTTED WHITE LINE (3' LINE W/ 9' GAP)  "DYL "BYL "BOTTED WHITE LINE EXTENSION (2' LINE W/ 6' GAP)  DOUBLE WHITE LINE									
PAVEMENT ARROW - WHITE  LEGEND "ONLY" - WHITE  BIKE LANE LEGEND - WHITE  STOP LINE  CROSSWALK  SWL SOLID WHITE LINE  SYL SOLID YELLOW LINE  BROKEN WHITE LINE  BYL BROKEN YELLOW LINE  BYL BROKEN YELLOW LINE  "BYL "BYL "BOTTED WHITE LINE (3' LINE W/ 9' GAP)  "DOTTED WHITE LINE (3' LINE W/ 9' GAP)  "DOTTED WHITE LINE (3' LINE W/ 9' GAP)  "DOTTED WHITE LINE EXTENSION (2' LINE W/ 6' GAP)  "DOTTED WHITE LINE EXTENSION (2' LINE W/ 6' GAP)  DOUBLE WHITE LINE	EMENT MARKING	GS SYMBOLS							
LEGEND "ONLY" - WHITE  BIKE LANE LEGEND - WHITE  SL STOP LINE  CROSSWALK  SWL SOLID WHITE LINE  SYL SOLID YELLOW LINE  BWL BROKEN WHITE LINE  BYL BROKEN YELLOW LINE	EXISTING	PROPOSED	DESCRIPTION						
BIKE LANE LEGEND - WHITE  STOP LINE  CROSSWALK  SWL SOLID WHITE LINE  SYL SOLID YELLOW LINE  BROKEN WHITE LINE  BROKEN YELLOW LINE  BYI BROKEN YELLOW LINE  """ """ """ """ """ """ """ """ "" ""	$\triangleleft$	<b>←</b>	PAVEMENT ARROW - WHITE						
STOP LINE  CROSSWALK  SWL SOLID WHITE LINE  SYL SOLID YELLOW LINE  BWL BROKEN WHITE LINE  BYL BROKEN YELLOW LINE  """ """ """ """ """ """ """ """ """	ONLY	ONLY	LEGEND "ONLY" - WHITE						
CROSSWALK  SWL SOLID WHITE LINE  SYL SOLID YELLOW LINE  BROKEN WHITE LINE  BYL BROKEN YELLOW LINE  """ """ """ """ """ """ """ """ """	<del>-</del>	<b>← %</b>	BIKE LANE LEGEND - WHITE						
SWL SOLID WHITE LINE  SYL SOLID YELLOW LINE  BWL BROKEN WHITE LINE  BYL BROKEN YELLOW LINE  """ BYL G"" DOTTED WHITE LINE (3' LINE W/ 9' GAP)  """ DOTTED YELLOW LINE (3' LINE W/ 9' GAP)  """ DOTTED WHITE LINE EXTENSION (2' LINE W/ 6' GAP)  """ DOTTED WHITE LINE EXTENSION (2' LINE W/ 6' GAP)  DYLEX G" DOTTED YELLOW LINE EXTENSION (2' LINE W/ 6' GAP)  DBWL DOUBLE WHITE LINE		SL	■ STOP LINE						
SYL SOLID YELLOW LINE  BWL BROKEN WHITE LINE  BYL BROKEN YELLOW LINE  G" DOTTED WHITE LINE (3' LINE W/ 9' GAP)  G" DOTTED YELLOW LINE (3' LINE W/ 9' GAP)  G" DOTTED WHITE LINE EXTENSION (2' LINE W/ 6' GAP)  DYLEX G" DOTTED YELLOW LINE EXTENSION (2' LINE W/ 6' GAP)  DBWL DOUBLE WHITE LINE		CW	CROSSWALK						
BWL BROKEN WHITE LINE  BYL BROKEN YELLOW LINE  G" DOTTED WHITE LINE (3' LINE W/ 9' GAP)  G" DOTTED YELLOW LINE (3' LINE W/ 9' GAP)  G" DOTTED WHITE LINE EXTENSION (2' LINE W/ 6' GAP)  DYLEX G" DOTTED YELLOW LINE EXTENSION (2' LINE W/ 6' GAP)  DBWL DOUBLE WHITE LINE		SWL	SOLID WHITE LINE						
BYL BROKEN YELLOW LINE		SYL	_ SOLID YELLOW LINE						
6" DOTTED WHITE LINE (3' LINE W/ 9' GAP)		BWL	BROKEN WHITE LINE						
6" DOTTED YELLOW LINE (3' LINE W/ 9' GAP)		BYL	_ BROKEN YELLOW LINE						
6" DOTTED TELEGOVERIZE (6" EINE W/ 6" S/N")  6" DOTTED WHITE LINE EXTENSION (2' LINE W/ 6' GAP)  DYLEX  DBWL  DOUBLE WHITE LINE  DOUBLE WHITE LINE		<u>DWL</u>	- 6" DOTTED WHITE LINE (3' LINE W/ 9' GAP)						
DYLEX 6" DOTTED YELLOW LINE EXTENSION (2' LINE W/ 6' GAP)  DBWL DOUBLE WHITE LINE		<u>DYL</u>	- 6" DOTTED YELLOW LINE (3' LINE W/ 9' GAP)						
DBWL DOUBLE WHITE LINE		DWLEx	_ 6" DOTTED WHITE LINE EXTENSION (2' LINE W/ 6' GAP)						
DOUBLE WITTE LINE		DYLEx	_ 6" DOTTED YELLOW LINE EXTENSION (2' LINE W/ 6' GAP)						
DBYL DOUBLE VELLOWLINE		DBWL	_ DOUBLE WHITE LINE						
DOUBLE YELLOW LINE		DBYL	_ DOUBLE YELLOW LINE						

YGL 12" YELLOW GORE LINE (3:1, 10' O.C.)

ABBREVIATIO	NS	WESTFORD				
GENERAL		CARLISLE ROAD				
AADT	ANNUAL AVERAGE DAILY TRAFFIC		LEGEND & ABBREVIATIONS SHEET 2 OF 40			
ABAN	ABANDON		SHEET 2 OF 40			
ADJ ADDROY	ADDUST					
APPROX. A.C.	APPROXIMATE ASPHALT CONCRETE					
ACCM PIPE	ASPHALT CONCRETE  ASPHALT COATED CORRUGATED METAL PIPE					
BIT.	BITUMINOUS					
BB	BITUMINOUS BERM	ABBREVIATI	ONS (cont.)			
ВС	BOTTOM OF CURB	GENERAL				
BD.	BOUND	PT	— POINT OF TANGENCY			
BL BLDG	BASELINE BUILDING	PVC	POINT OF VERTICAL CURVATURE			
BM	BENCHMARK	PVI	POINT OF VERTICAL INTERSECTION			
ВО	BY OTHERS	PVT	POINT OF VERTICAL TANGENCY			
BOS	BOTTOM OF SLOPE	PVMT	PAVEMENT			
BR.	BRIDGE	PWW	PAVED WATERWAY			
CB	CATCH BASIN	R R&D	RADIUS OF CURVATURE REMOVE AND DISPOSE			
CBCI CC	CATCH BASIN WITH CURB INLET CEMENT CONCRETE	RCP	REINFORCED CONCRETE PIPE			
CCM	CEMENT CONCRETE MASONRY	RD	ROAD			
CEM	CEMENT	RDWY	ROADWAY			
CI	CURB INLET	REM	REMOVE			
CIP	CAST IRON PIPE	RET WALL	RETAIN RETAINING WALL			
CLF	CHAIN LINK FENCE	RET WALL ROW	RETAINING WALL RIGHT OF WAY			
CL CMP	CENTERLINE CORRUGATED METAL PIDE	RR	RAILROAD			
CMP CSP	CORRUGATED METAL PIPE CORRUGATED STEEL PIPE	RRFB	RECTANGULAR RAPID FLASHING BEACON			
CO.	COUNTY	R&R	REMOVE AND RESET			
CONC	CONCRETE	R&S	REMOVE AND STACK			
CONT	CONTINUOUS	RT SB	RIGHT STONE BOUND			
CONST	CONSTRUCTION	SGE	STONE BOUND SLOPED GRANITE EDGING			
CR GR	CROWN GRADE	SHLD	SHOULDER			
DHV DI	DESIGN HOURLY VOLUME DROP INLET	SMH	SEWER MANHOLE			
DIA	DIAMETER	ST	STREET			
DIP	DUCTILE IRON PIPE	STA	STATION			
DW	STEADY DON'T WALK - PORTLAND ORANGE	SSD SHLO	STOPPING SIGHT DISTANCE STATE HIGHWAY LAYOUT LINE			
DWP	DETECTABLE WARNING PANEL	SW	SIDEWALK			
DWY	DRIVEWAY	T	TANGENT DISTANCE OF CURVE/TRUCK %			
ELEV (or EL.) EMB	ELEVATION EMBANKMENT	TAN	TANGENT			
EOP	EDGE OF PAVEMENT	TEMP	TEMPORARY			
EXIST (or EX)		TC	TOP OF CURB			
EXC	EXCAVATION	TOS TYP	TOP OF SLOPE TYPICAL			
F&C	FRAME AND COVER	UP	UTILITY POLE			
F&G	FRAME AND GRATE	VAR	VARIES			
FDN. FLDSTN	FOUNDATION FIELDSTONE	VERT	VERTICAL			
GAR	GARAGE	VC	VERTICAL CURVE			
GC	GRANITE CURB	WCR	WHEEL CHAIR RAMP			
GD	GROUND	WG WIP	WATER GATE WROUGHT IRON PIPE			
GG	GAS GATE	WM	WATER METER/WATER MAIN			
GI	GUTTER INLET	X-SECT	CROSS SECTION			
GIP	GALVANIZED IRON PIPE					
GRAN GRAV	GRANITE GRAVEL					
GRD	GUARD					
HDW	HEADWALL					
HMA	HOT MIX ASPHALT					
HOR	HORIZONTAL					
HYD	HYDRANT INVERT					
INV JCT	INVERT JUNCTION					
L	LENGTH OF CURVE					
LB	LEACH BASIN					
LOG	LIMIT OF GRADING					
LP	LIGHT POLE					
L&S	LOAM AND SEED					
LT MAX	LEFT MAXIMUM					
MB	MAILBOX					
MH	MANHOLE					
МНВ	MASSACHUSETTS HIGHWAY BOUND					
MIN	MINIMUM					
NIC	NOT IN CONTRACT					
NO. PC	NUMBER POINT OF CURVATURE					
PCC	POINT OF CURVATURE POINT OF COMPOUND CURVATURE					
PERM	PERMANENT					
P.G.L.	PROFILE GRADE LINE					
PI	POINT OF INTERSECTION					
POC	POINT ON CURVE					
POT	POINT OF REVERSE CURVATURE					
PRC PROJ	POINT OF REVERSE CURVATURE PROJECT					
PROP	PROPOSED					
PSB	PLANTABLE SOIL BORROW					





#### MATTING ON SLOPES STEEPER THAN 3:1 1' LEVEL -2' SHLD — 2' MIN — CONST B HMA SW **GRASS** TRAVEL LANE TRAVEL LANE BUFFER MEET EXIST PROP SAWCUT EXISTING GROUND \_ \_ EXISTING GROUND - PROP 4" LOAM & SEED CARLISLE ROAD 2:1 IN (MAX) CUT\* TYPICAL SECTION 6:1 IN (MAX) FILL - PROP GC; TYPE VB STA 21+85± TO 25+56± - PROP ORDINARY BORROW (TYP) \*TOLERANCE FOR CONSTRUCTION ±0.5% NTS

#### 1' LEVEL 1' MIN -2' MIN — CONST ₽ SHLD GRASS HMA SW TRAVEL LANE TRAVEL LANE TRAVEL LANE BUFFER - MEET EXIST EXISTING GROUND RET EXIST SGE & VGC - PROP 4" LOAM & SEED CARLISLE ROAD 3:1 IN (MAX) FILL TYPICAL SECTION - PROP 4" LOAM & SEED STA 15+13± TO 21+14± \*TOLERANCE FOR CONSTRUCTION ±0.5% - RET EXIST VGC NTS 1' LEVEL 1' MIN -2' MIN — CONST ₽ HMA SW SHLD TRAVEL LANE TRAVEL LANE TRAVEL LANE - MEET EXIST EXISTING GROUND **PROP SAWCUT RET EXIST VGC** CARLISLE ROAD ─ PROP 4" LOAM & SEED TYPICAL SECTION 4:1 IN (MAX) FILL STA 12+76± TO 14+71± 6:1 IN (MAX) CUT \*TOLERANCE FOR CONSTRUCTION ±0.5% NTS – PROP ORDINARY BORROW (TYP) ► PROP GC; TYPE VB

#### PAVEMENT NOTES

#### PROPOSED FULL DEPTH PAVEMENT LESS THAN 4' WIDE

SURFACE: 1¾" SUPERPAVE SURFACE COURSE - 12.5 (SSC - 12.5) OVER 21/4" SUPERPAVE INTERMEDIATE COURSE - 19.0 (SIC - 19.0) OVER

6" HIGH EARLY STRENGTH CEMENT CONCRETE OVER

SUBBASE: 8" GRAVEL BORROW, TYPE b

#### PROPOSED CEMENT CONCRETE CURB RAMPS

SURFACE: 4" CEMENT CONCRETE (AIR ENTRAINED, 4000 PSI, 3/4", 610)

8" GRAVEL BORROW, TYPE b

#### PROPOSED HMA SIDEWALK

\* PROP BIODEGRADABLE EROSION CONTROL

SURFACE: 11/4" SUPERPAVE SURFACE COURSE - 9.5 (SSC - 9.5) OVER 1¾" SUPERPAVE INTERMEDIATE COURSE - 12.5 (SIC - 12.5) OVER

8" GRAVEL BORROW, TYPE b

#### PROPOSED HMA DRIVEWAY (RESIDENTIAL)

SURFACE: 11/2" SUPERPAVE SURFACE COURSE - 9.5 (SSC - 9.5) OVER 2½" SUPERPAVE INTERMEDIATE COURSE - 12.5 (SIC - 12.5) OVER

8" SUITABLE EXISTING GRAVEL;

ADD GRAVEL BORROW, TYPE b AS REQUIRED

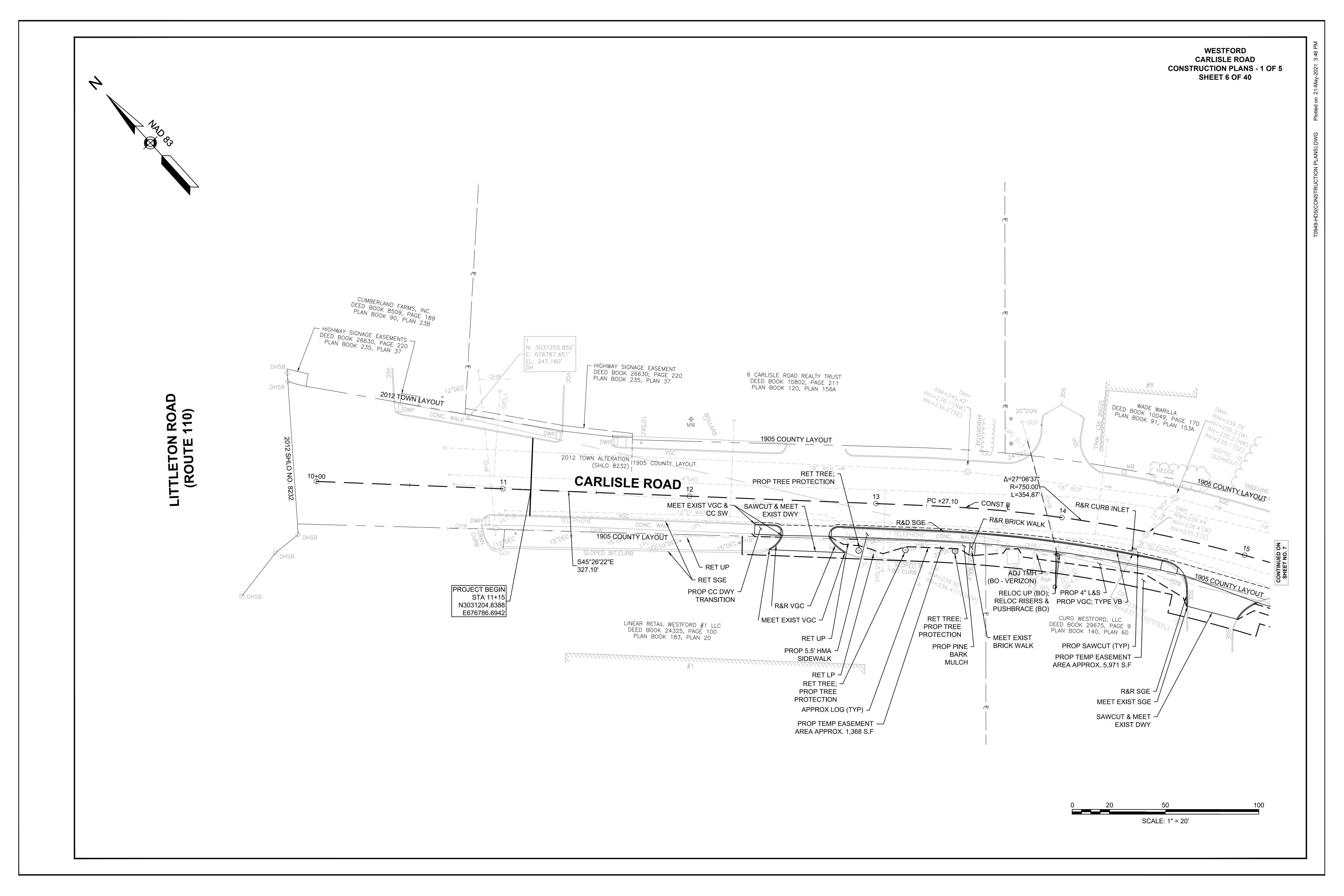
#### PROPOSED HMA DRIVEWAY (COMMERCIAL)

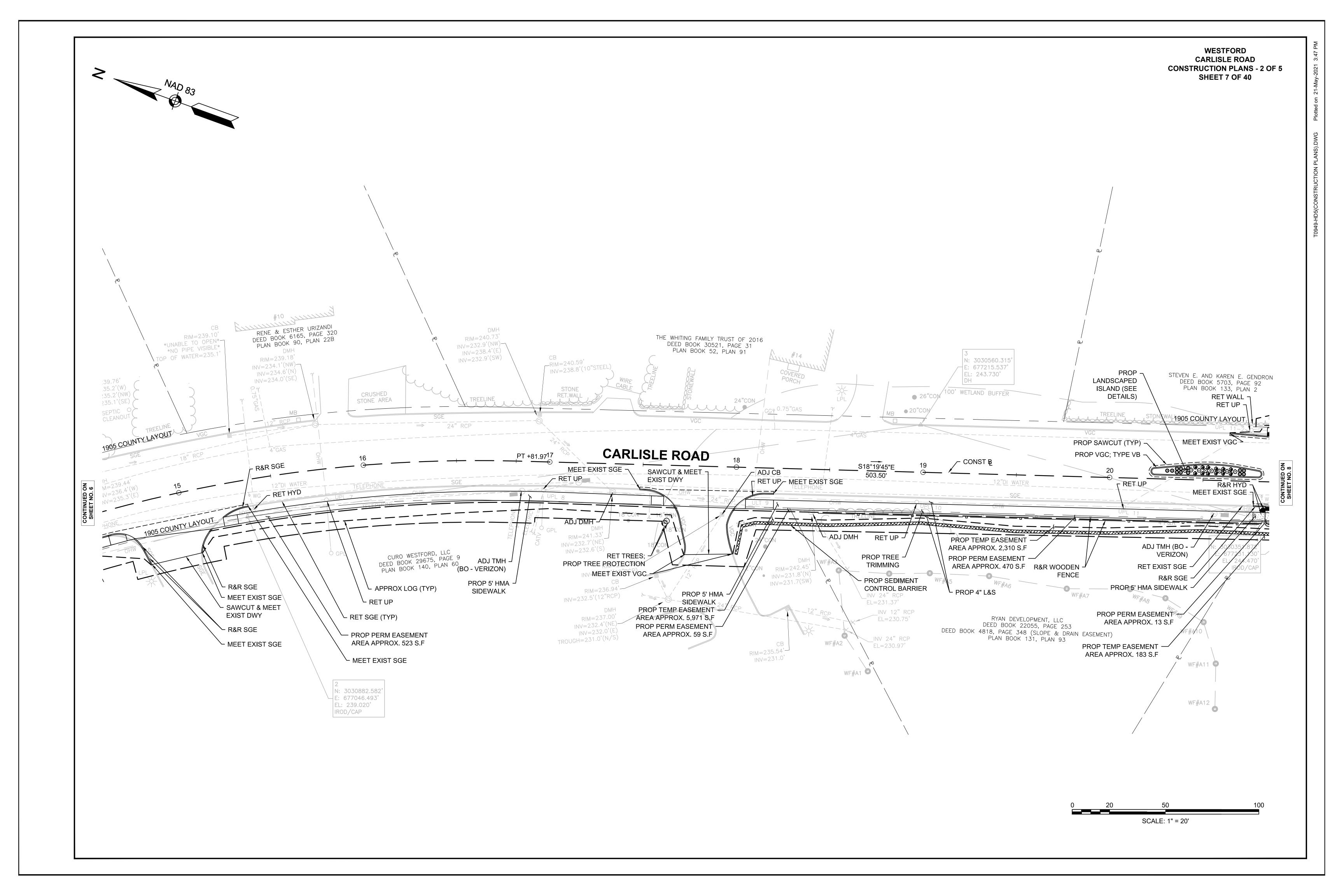
SURFACE: 11/2" SUPERPAVE SURFACE COURSE - 12.5 (SSC - 12.5) OVER 2½" SUPERPAVE INTERMEDIATE COURSE - 12.5 (SIC - 12.5) OVER

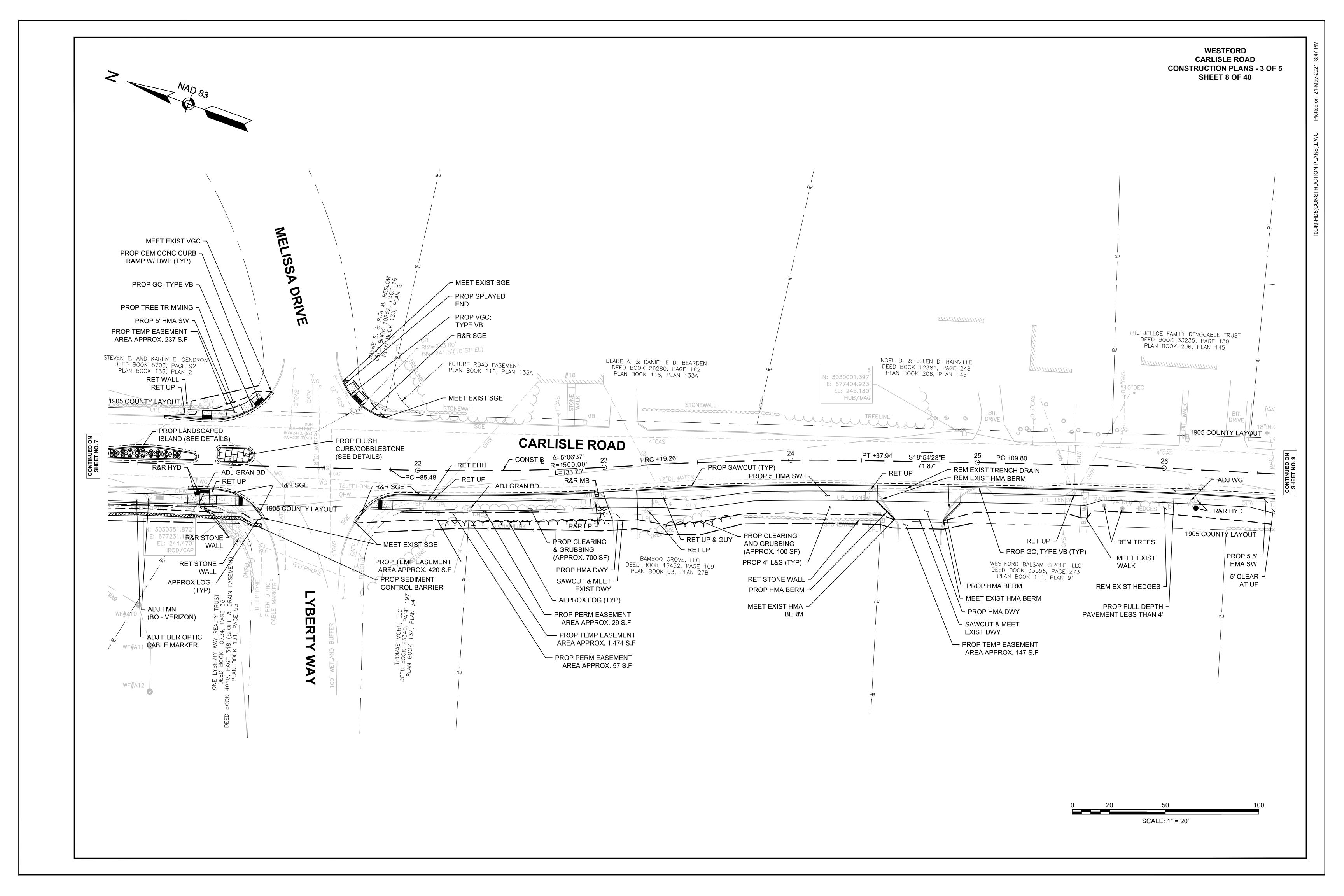
8" SUITABLE EXISTING GRAVEL; ADD GRAVEL BORROW, TYPE b AS REQUIRED

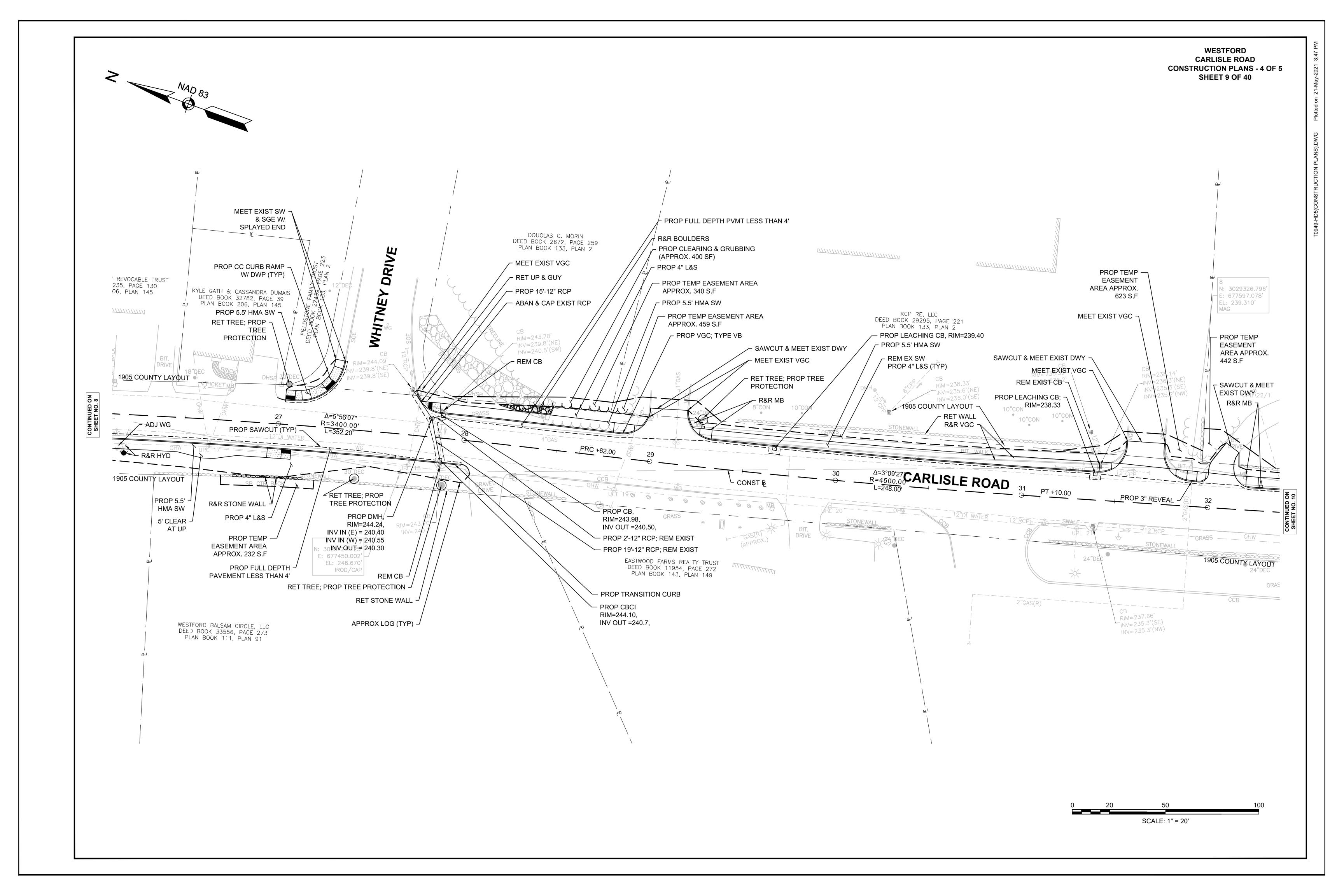
### **GENERAL PAVEMENT NOTES:**

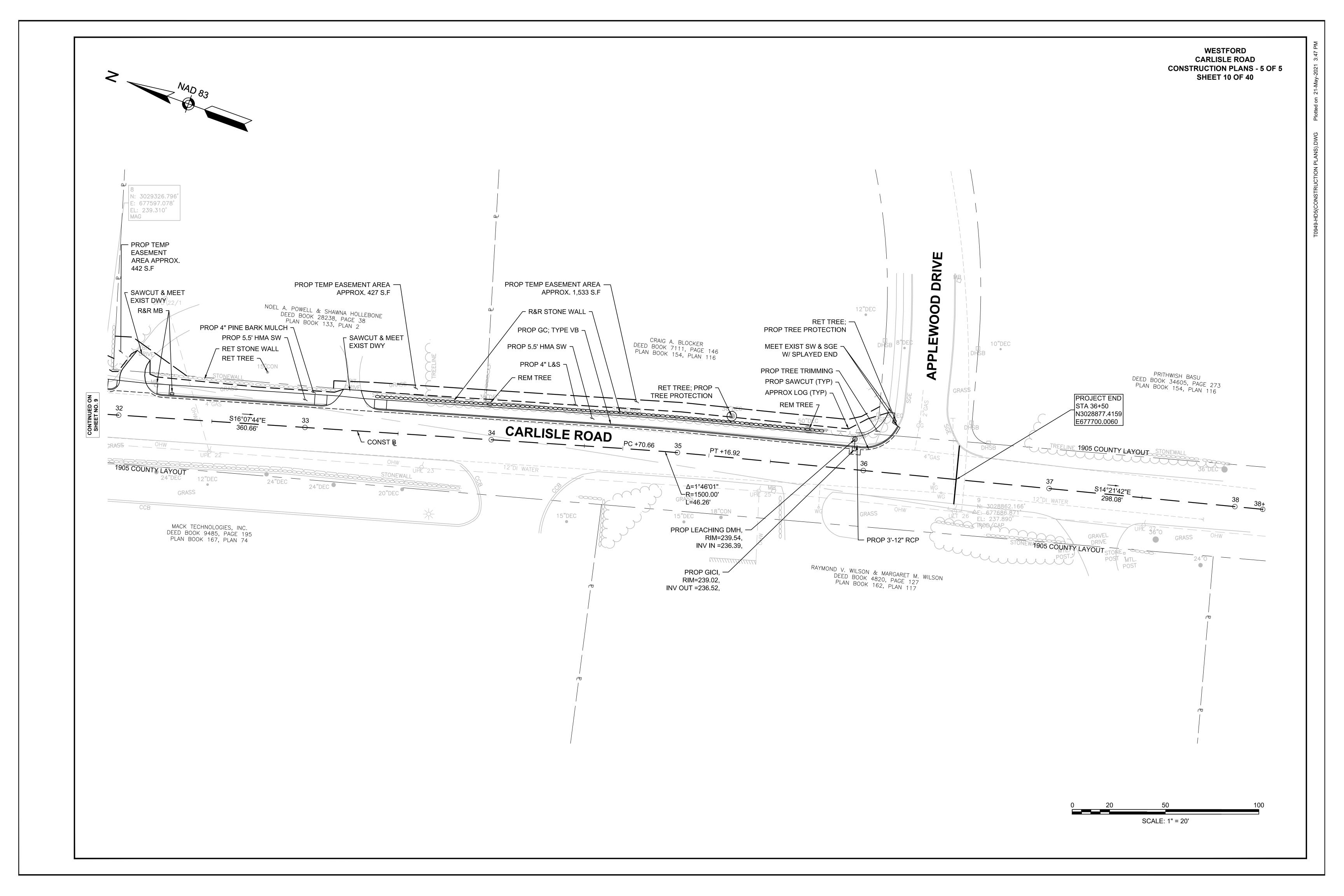
- 1. ASPHALT EMULSION FOR TACK COAT SHALL BE APPLIED BETWEEN ALL ASPHALT SURFACES AND SAWCUT JOINTS BEFORE PAVING. HMA JOINT SEALANT SHALL BE APPLIED TO ALL COLD JOINTS (LONGITUDINAL AND TRANSVERSE) BEFORE PAVING SURFACE COURSE. ASPHALT EMULSION FOR TACK COAT SHALL BE APPLIED IN ACCORDANCE WITH SUBSECTION 450.43. ALL SURFACES SHALL BE CLEAN OF ALL ORGANICS, DEBRIS, AND SAND PRIOR TO PAVING.
- 2. ALL HMA SHALL BE IN ACCORDANCE WITH SECTION 460 AND SECTION M3 ASPHALTIC MATERIALS.
- 3. ASPHALT EMULSION FOR TACK COAT SHALL BE RS-1H TO RESIST TRACKING OF TACK BY HAUL VEHICLES.
- 4. HMA FOR WALKS AND DRIVEWAYS SHALL BE IN ACCORDANCE WITH SECTION 700.
- 5. ALL GRAVEL BORROW MEETING SPECIFICATION SHALL BE RETAINED IN PLACE, COMPACTED, AND LEVELED AS REQUIRED.

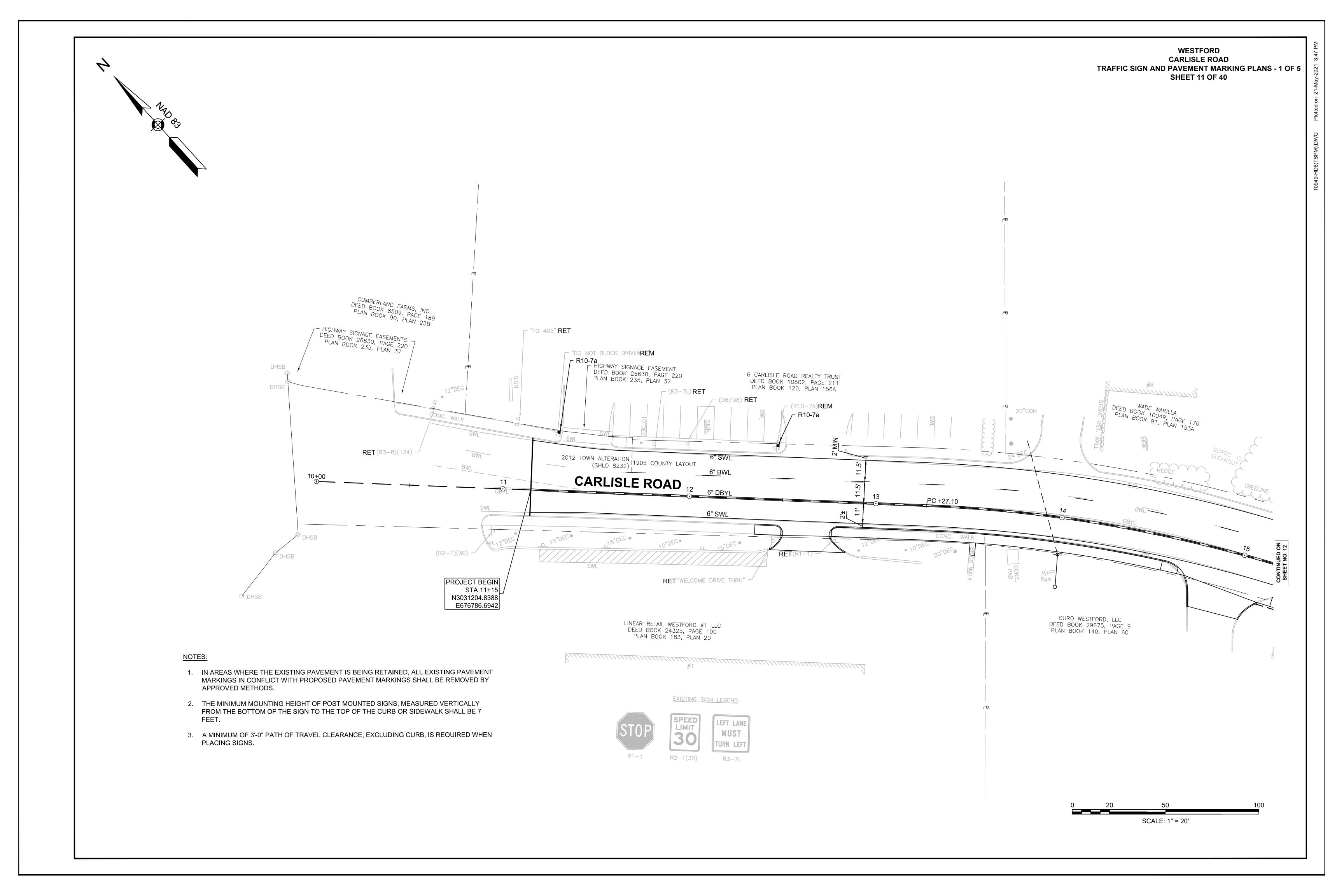


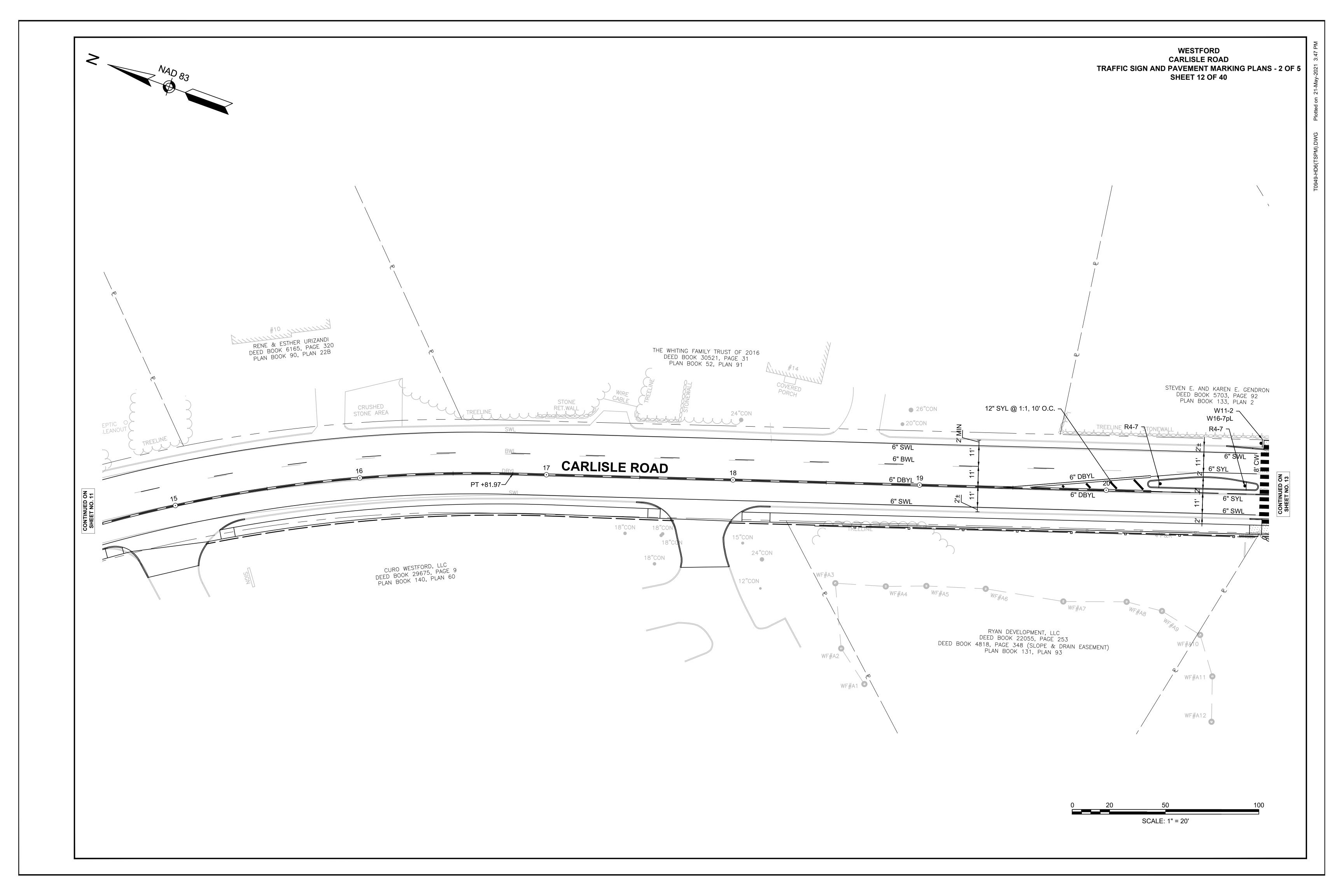


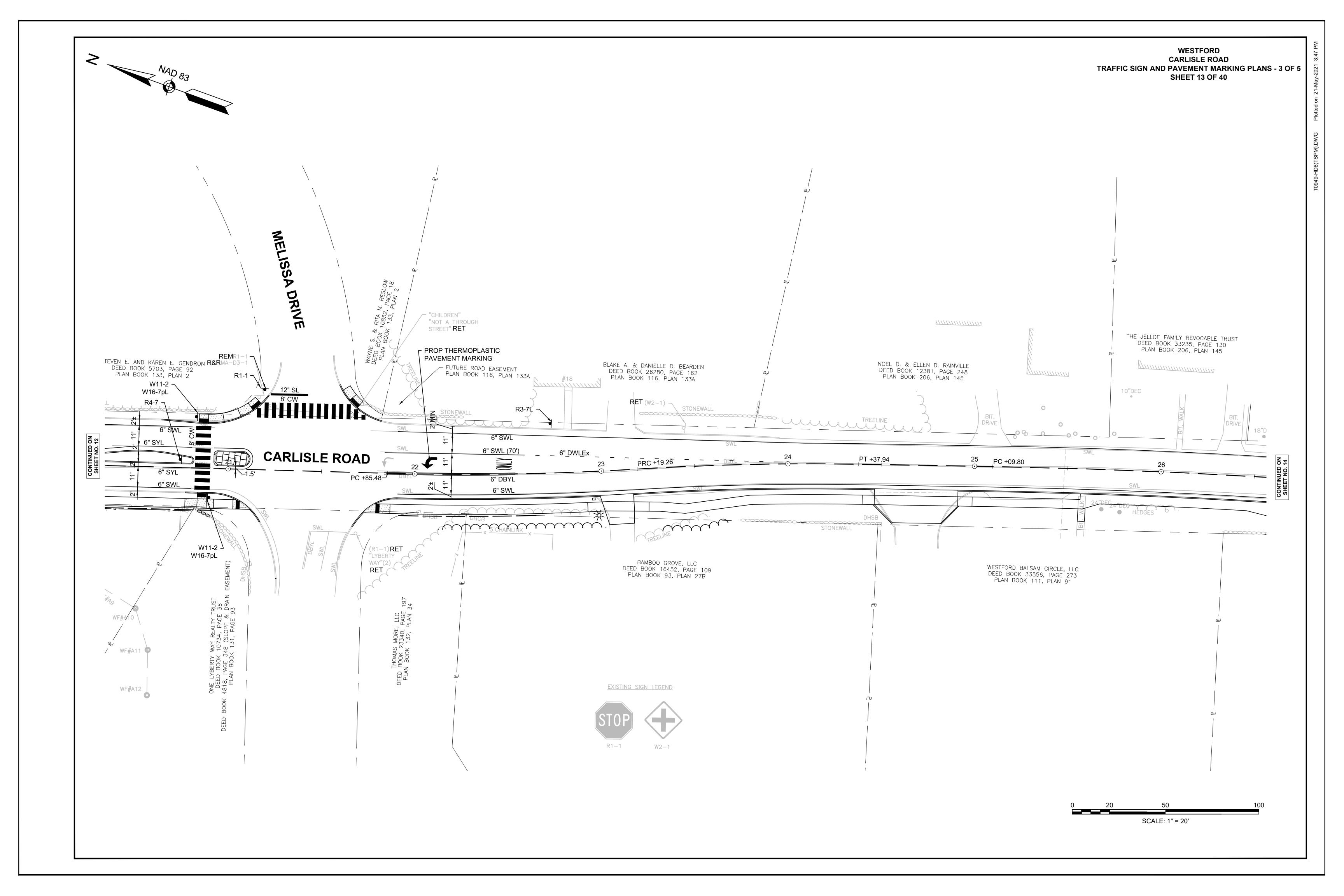


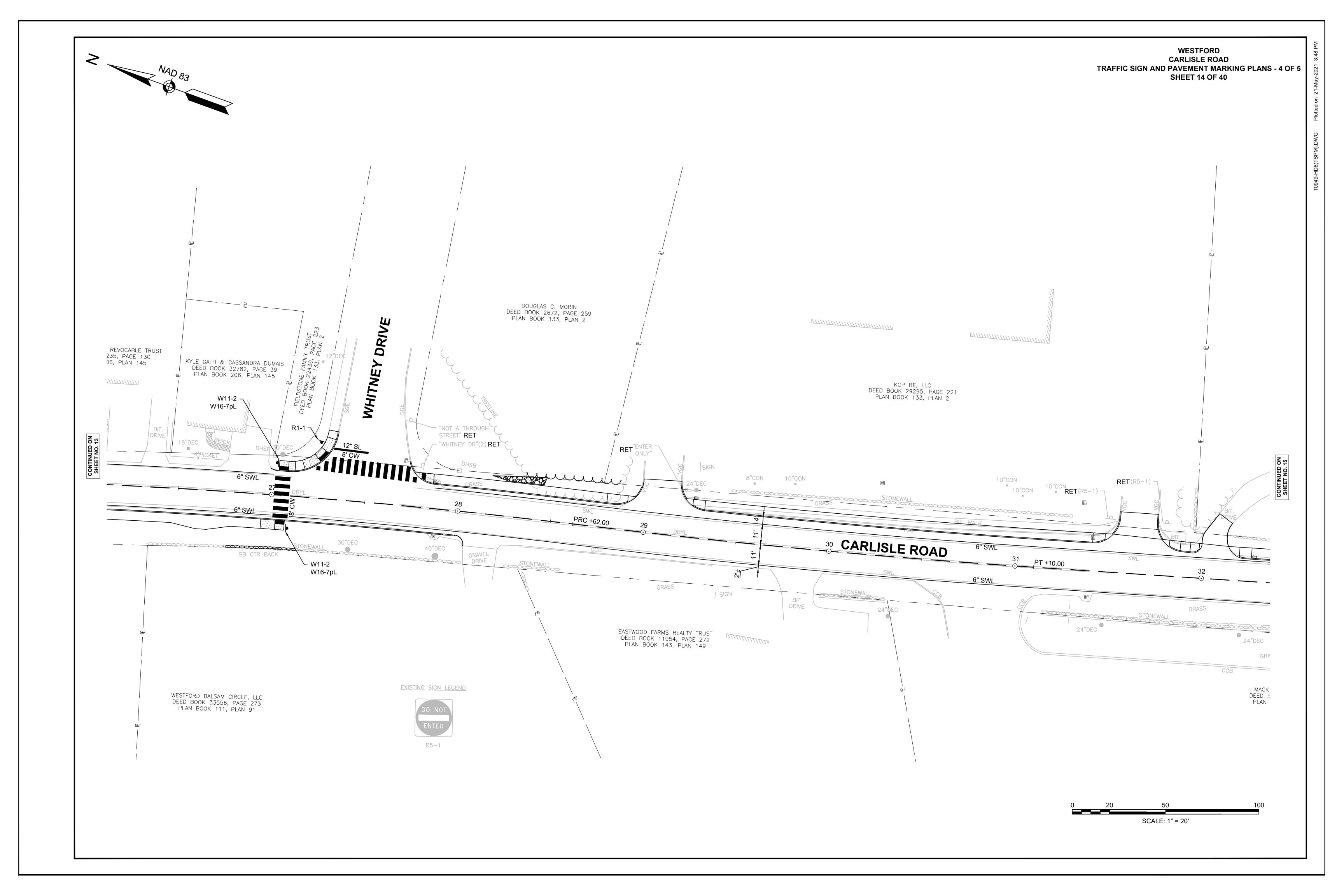


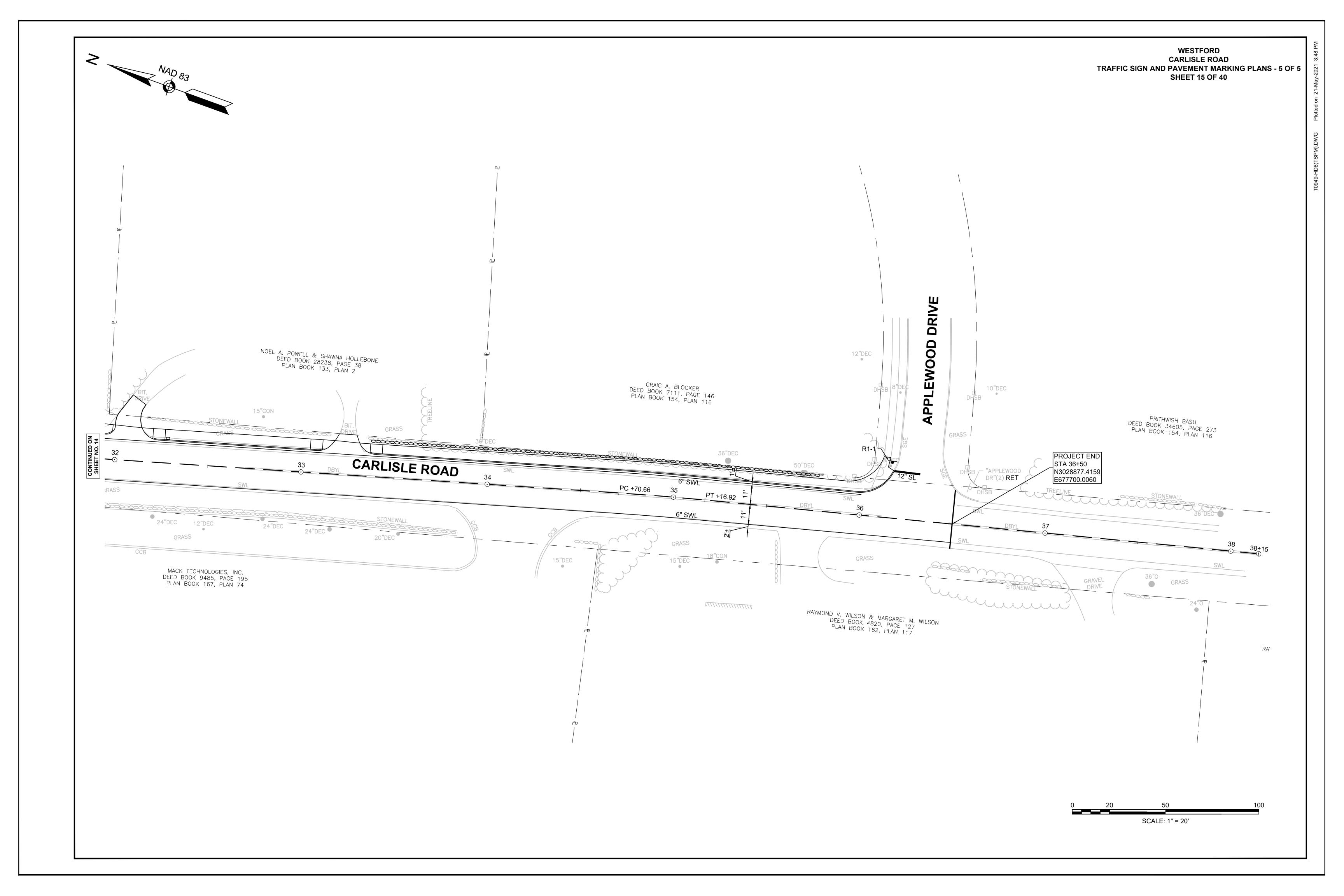












	TRAFFIC SIGN SUMMARY													
IDENTIFICATION	SIZE OF	SIZE OF SIGN (in)		TEXT DIMENSIONS (in)		NUMBER OF SIGNS	COLOR			SIZE AND NUMBER OF	MOUNTING HEIGHT( TO BOTTOM OF	UNIT AREA	TOTAL AREA	
NUMBER	WIDTH	HEIGHT	LEGEND	LETTER HEIGHT	VERTIC SPACII	CAL ARROW NG RTE. MKR	REQUIRED	BACK- GROUND	LEGEND	BORDER	POSTS REQUIRED	SIGN) (FT)	(SF)	(SF)
R1-1	30	30	STOP		1		3	RED	WHITE	WHITE	P-5 2	7	6.25	18.75
R3-7L	30	30	LEFT LANE MUST TURN LEFT				1	WHITE	BLACK	BLACK	P-5 1	7	6.25	6.25
R4-7	24	30	7				2	WHITE	BLACK	BLACK	P-5 1	7	5.00	10.00
R10-7a	24	30	DO NOT BLOCK DRIVEWAY				2	WHITE	BLACK	BLACK	P-5 2	7	5.00	10.00
W11-2	30	30					4	FLUORESCENT YELLOW-GREEN	BLACK	BLACK	P-5 2	7	6.25	25.00
W16-7pL	24	12			V		4	FLUORESCENT YELLOW-GREEN	BLACK	BLACK	0 MOUNT W/ W11-2	7	2.00	8.00

### NOTES

- 1.) SEE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS FOR TEXT AND LEGEND DIMENSIONS.
- 2. THE MINIMUM MOUNTING HEIGHT OF POST-MOUNTED SIGNS, MEASURED VERTICALLY FROM THE BOTTOM OF THE SIGN TO THE TOP OF CURB OR SIDEWALK, OR THE ELEVATION OF THE NEAR EDGE OF TRAVEL WAY, SHALL BE 7 FEET UNLESS OTHERWISE SPECIFIED.
- 3. A MINIMUM OF 3'-0" PATH OF TRAVEL CLEARANCE, EXCLUDING CURB, IS REQUIRED WHEN PLACING SIGNS.

- 3. TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF ANY WORK.
- 4. TEMPORARY CONSTRUCTION SIGNING, BARRICADES, AND ALL OTHER NECESSARY WORK ZONE TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM THE HIGHWAY OR COVERED WHEN THEY ARE NOT REQUIRED FOR CONTROL OF TRAFFIC.
- 5. SIGNS AND SIGN SUPPORTS LOCATED ON OR NEAR THE TRAVELED WAY, CHANNELIZING DEVICES, BARRIERS, AND CRASH ATTENUATORS MUST PASS THE CRITERIA SET FORTH IN THE "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH).
- 6. CONTRACTORS SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS, SUCH AS CONDUIT INSTALLATION, EXISTING PAVEMENT EXCAVATION, TEMPORARY DRIVEWAY PAVEMENT PLACEMENT, AND SIMILAR OPERATIONS.
- 7. THE FIRST TEN PLASTIC DRUMS OF A TAPER SHALL BE MOUNTED WITH SEQUENTIAL FLASHING LIGHTS.
- 8. THE ADVISORY SPEED LIMIT, IF REQUIRED, SHALL BE DETERMINED BY THE ENGINEER.
- 9. DISTANCES ARE A GUIDE AND MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
- 10. MAXIMUM SPACING OF TRAFFIC DEVICES IN A TAPER (DRUMS OR CONES) IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH.
- 11. MINIMUM LANE WIDTH IS TO BE 11 FEET UNLESS OTHERWISE SHOWN. MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF DRUMS OR MEDIAN BARRIER.
- 12. ALL SIGNS SHALL BE MOUNTED ON THEIR OWN STANDARD SIGN SUPPORTS.
- 13. NO LANE CLOSURES SHALL BE PERMITTED DURING PEAK HOUR TRAFFIC. PEAK HOUR IS CONSIDERED TO BE FROM 7-9:00 AM AND 4-6:00 PM ON WEEKDAYS

## LEGEND:

REFLECTORIZED PLASTIC DRUM OR 36" CONE

P/F POLICE/FLAGGER DETAIL

TYPE III BARRICADE

CHANGEABLE MESSAGE SIGN

ARROW BOARD

WORK ZONE

WORK ZONE

WORK ZONE

WORK VEHICLE

TRUCK MOUNTED ATTENUATOR

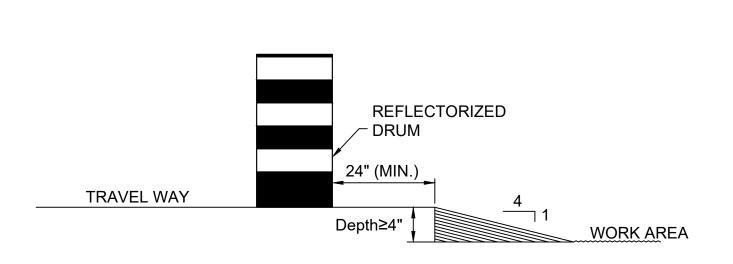
TRAFFIC OR PEDESTRIAN SIGNAL

SIGN

MEDIAN BARRIER

MEDIAN BARRIER WITH

WARNING LIGHTS



LATERAL DROP-OFF DETAIL

NOT TO SCALE

WORK ZONE AREA (CLOSED) DETECTABLE EDGING--DETECTABLE WARNING PANEL 72" MAX 48" MIN 000000 -CONTRAST MARKING ON 48" MIN PORTABLE LANDING CURB RAMP WALKWAY NON-SMOOTH TRANSITION JOINTS (TYP) ≠ TURNING\ EXISTING SIDEWALK TEMPORARY PEDESTRIAN FACILITY 3:1 MAX SLOPE INTO GUTTER-\_\_GROUND SURFACE WITHOUT EDGE PROTECTION OR DETECTABLE EDGE —CURB PORTABLE WALKWAY\_ TURNING AREA TEMPORARY CURB RAMP-48" MIN LANDING AREA DETECTABLE EDGE 48" MIN LANDING AREA 6" MAX—∕ —GROUND SURFACE -EXISTING SIDEWALK EXISTING SURFACE OR TEMPORARY PEDESTRIAN FACILITY

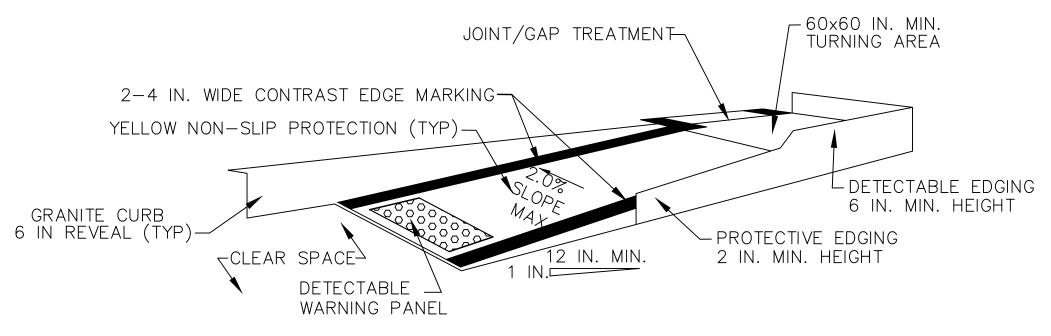
## **TEMPORARY CURB RAMP-TYPE 2**

## PEDESTRIAN TYPICAL DETAILS

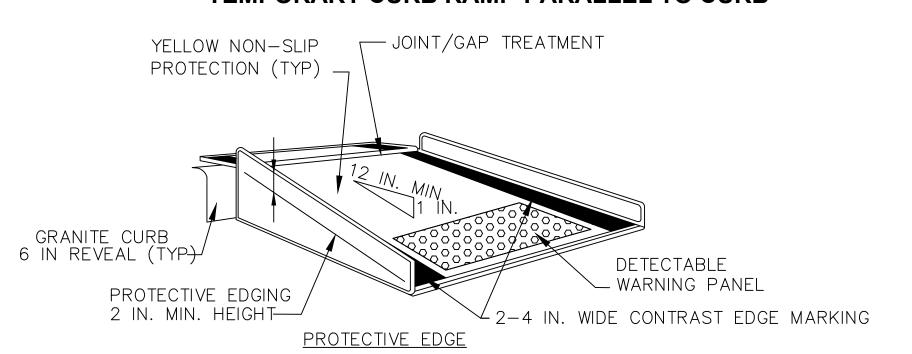
### **PEDESTRIAN DETAILS**

#### NOTES:

- 1. CURB RAMPS SHALL BE 48 IN. MINIMUM WIDTH WITH A FIRM, STABLE AND NON-SLIP SURFACE.
- 2. PROTECTIVE EDGING WITH A 2 IN. MINIMUM HEIGHT SHALL BE INSTALLED WHEN THE CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6 IN. OR GREATER OR HAS A SIDE APRON SLOP STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN THE CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3 IN OR MORE
- 3. DETECTABLE EDGING WITH 6 IN. MINIMUM HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
- 4. THE CURB RAMP WALKWAY AND LANDING AREA SURFACE SHALL BE OF A SOLID CONTINUOUS CONTRASTING COLOR ABUTTING UP TO THE EXISTING SIDEWALK.
- 5. CURB RAMPS AND LANDINGS SHOULD HAVE A 1:50 (2%) MAX CROSS-SLOPE.
- 6. CLEAR SPACE OF 48x48 IN. MINIMUM SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
- 7. WATER FLOW IN THE GUTTER SYSTEM SHALL HAVE MINIMAL RESTRICTION.
- 8. LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 0.5 IN. WIDTH.
- 9. CHANGES BETWEEN SURFACE HEIGHTS SHOULD NOT EXCEED 0.5 IN. LATERAL EDGES SHOULD BE VERTICAL UP TO 0.25 IN. HIGH, AND BEVELED AT 1:2 BETWEEN 0.25 IN. AND 0.5 IN. HEIGHT.
- TRAFFIC. THEN A PAD SHALL NOT BE INSTALLED ON THE RAMP.

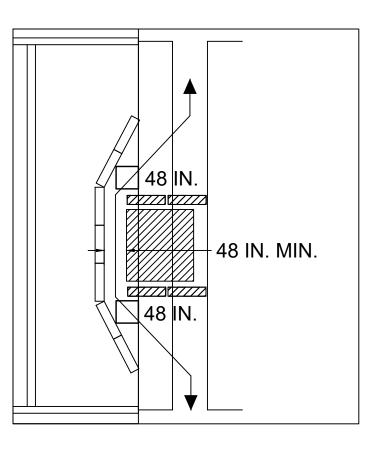


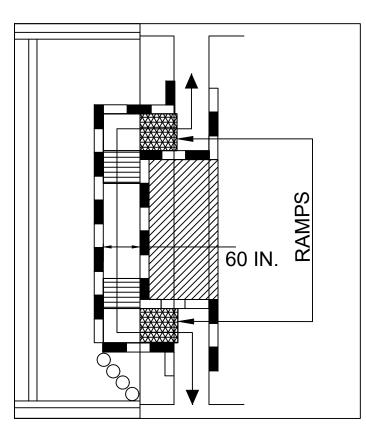
## TEMPORARY CURB RAMP-PARALLEL TO CURB



### **TEMPORARY CURB RAMP-PERPENDICULAR TO CURB**

WESTFORD
CARLISLE ROAD
TEMPORARY TRAFFIC CONTROL PLANS - 1 OF 2
SHEET 17 OF 40





- WHEN EXISTING PEDESTRIAN FACILITIES ARE DISRUPTED, CLOSED, OR RELOCATED IN A TTC ZONE, TEMPORARY FACILITIES SHALL BE PROVIDED AND THEY SHALL BE DETECTABLE AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH THE FEATURES PRESENT IN THE EXISTING PEDESTRIAN FACILITY.
- A PEDESTRIAN CHANNELIZING DEVICE THAT IS DETECTABLE BY A PERSON WITH A VISUAL DISABILITY TRAVELING WITH THE AID OF A LONG CANE SHALL BE PLACED ACROSS THE FULL WIDTH OF THE CLOSED SIDEWALK.
- WHEN USED, TEMPORARY RAMPS SHALL COMPLY WITH AMERICANS WITH DISABILITIES ACT (SEE FIGURES PED-1 & PED-2).
- THE ALTERNATE PATHWAY SHOULD HAVE A SMOOTH CONTINUOUS HARD SURFACE FOR THE ENTIRE LENGTH OF THE TEMPORARY PEDESTRIAN FACILITY.
- THE PROTECTIVE REQUIREMENTS OF A TTC SITUATION HAVE PRIORITY IN DETERMINING THE NEED FOR TEMPORARY TRAFFIC BARRIERS AND THEIR USE IN THIS SITUATION SHOULD BE BASED ON ENGINEERING JUDGMENT.
- AUDIBLE INFORMATION DEVICES SHOULD BE CONSIDERED WHERE MIDBLOCK CLOSINGS AND CHANGED CROSSWALK AREAS CAUSE INADEQUATE COMMUNICATION TO BE PROVIDED TO PEDESTRIANS WHO HAVE VISUAL DISABILITIES.

## AUDIBLE DEVICES

FOR LONG TERM SIDEWALK CLOSURES (AT A MINIMUM OVERNIGHT) A FORM OF SPEECH MESSAGING FOR PEDESTRIANS WITH VISUAL DISABILITIES SHALL BE PROVIDED. AUDIBLE INFORMATION DEVICES SUCH AS DETECTABLE BARRIERS OR BARRICADES AND OTHER PASSIVE PEDESTRIAN ACTIVATION (MOTION ACTIVATED) DEVICES SHOULD BE CONSIDERED FOR THESE CASES. THESE AUDIBLE DEVICES CAN BE MOUNTABLE OR STAND ALONE.

### TAPER LENGTH CRITERIA FOR TEMPORARY TRAFFIC CONTROL ZONES

TYPE OF TAPER	TAPER LENGTH (L)				
MERGING TAPER	AT LEAST L				
SHIFTING TAPER	AT LEAST 0.5L				
SHOULDER TAPER	AT LEAST 0.33L				
ONE-LANE, TWO-WAY TRAFFIC TAPER	50 FT MIN. 100 FT MAX.				
DOWNSTREAM TAPER	50 FT MIN. 100 FT MAX. PER LANE				

### FORMULAS FOR DETERMINING TAPER LENGTHS

SPEED LIMIT (S)	TAPER LENGTH (L) FEET
40 MPH OR LESS	$L= \frac{WS^2}{60}$
45 MPH OR MORE	L= WS

WHERE: L = TAPER LENGTH IN FEET

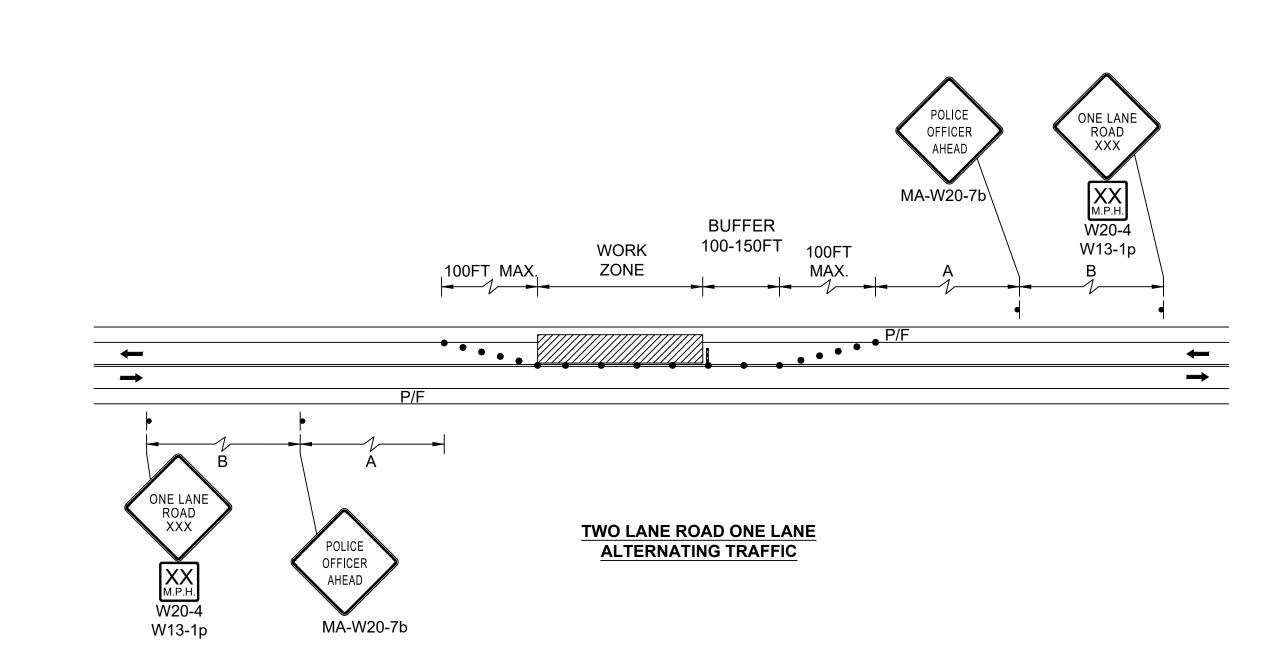
W = WIDTH OF OFFSET IN FEET

S = POSTED SPEED LIMIT, OR OFF-PEAK 85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED IN MPH

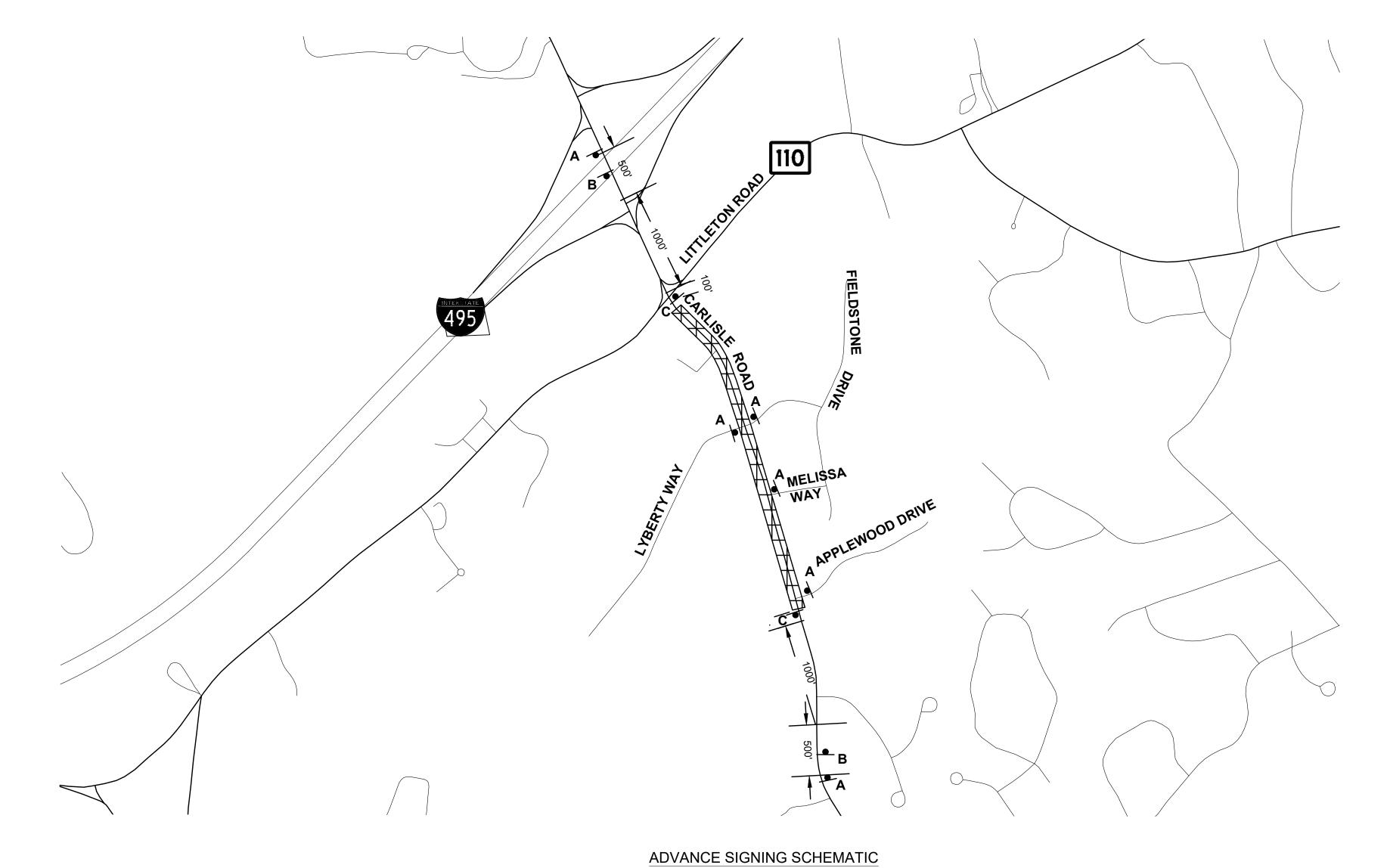
## SUGGESTED WORK ZONE WARNING SIGN SPACING

ROAD TYPE	DISTANCE BETWEEN SIGNS (FEET)					
NOAD TIFE	А	В	С			
LOCAL OR LOW VOLUME ROADWAYS	350	350	350			
MOST OTHER ROADWAYS	500	500	500			
FREEWAYS AND EXPRESSWAYS	1,000	1,500	2,640			

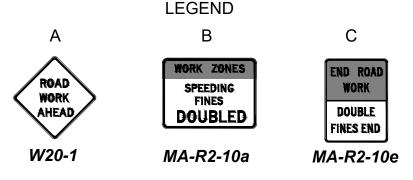
				TC140								
			1	IEMP	ORARY II	RAFFIC CONTR	KOL SIGN SU	JWIWARY				ı
IDENTIFICATION	SIZE OF SIGN (in)			TEXT DIMENSIONS (in)		COLOR			NUMBER OF SIGNS	UNIT AREA	TOTAL AREA	
NUMBER	WIDTH	HEIGHT	LEGEND	LETTER HEIGHT	VERTICA SPACINO		BACK- GROUND	LEGEND	BORDER	REQUIRED	(SF)	(SF)
MA-R2-10a	48	36	WORK ZONES  SPEEDING FINES DOUBLED	MASSD	MASSDOT STANDARD SIGN			BLACK BLACK	BLACK BLACK	2	12.00	24.00
MA-R2-10e	36	48	END ROAD WORK DOUBLE FINES END		•		FL. ORANGE WHITE	BLACK BLACK	BLACK BLACK	2	12.00	24.00
W13-1p	24	24	XX MPH	TRAFFIC C	SEE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS			BLACK	BLACK	2	4.00	8.00
W20-1	36	36	ROAD WORK AHEAD				FL. ORANGE	BLACK	BLACK	4	9.00	36.00
W20-4	36	36	ONE LANE ROAD AHEAD		V		FL. ORANGE	BLACK	BLACK	2	9.00	18.00
MA-W20-7b	36	36	POLICE OFFICER AHEAD	MASSD	OT STAND	DARD SIGN	FL. ORANGE	BLACK	BLACK	2	9.00	18.00



WESTFORD CARLISLE ROAD TEMPORARY TRAFFIC CONTROL PLANS - 2 OF 2 SHEET 18 OF 40



N.T.S.



PLAN VIEW

#### NOTES:

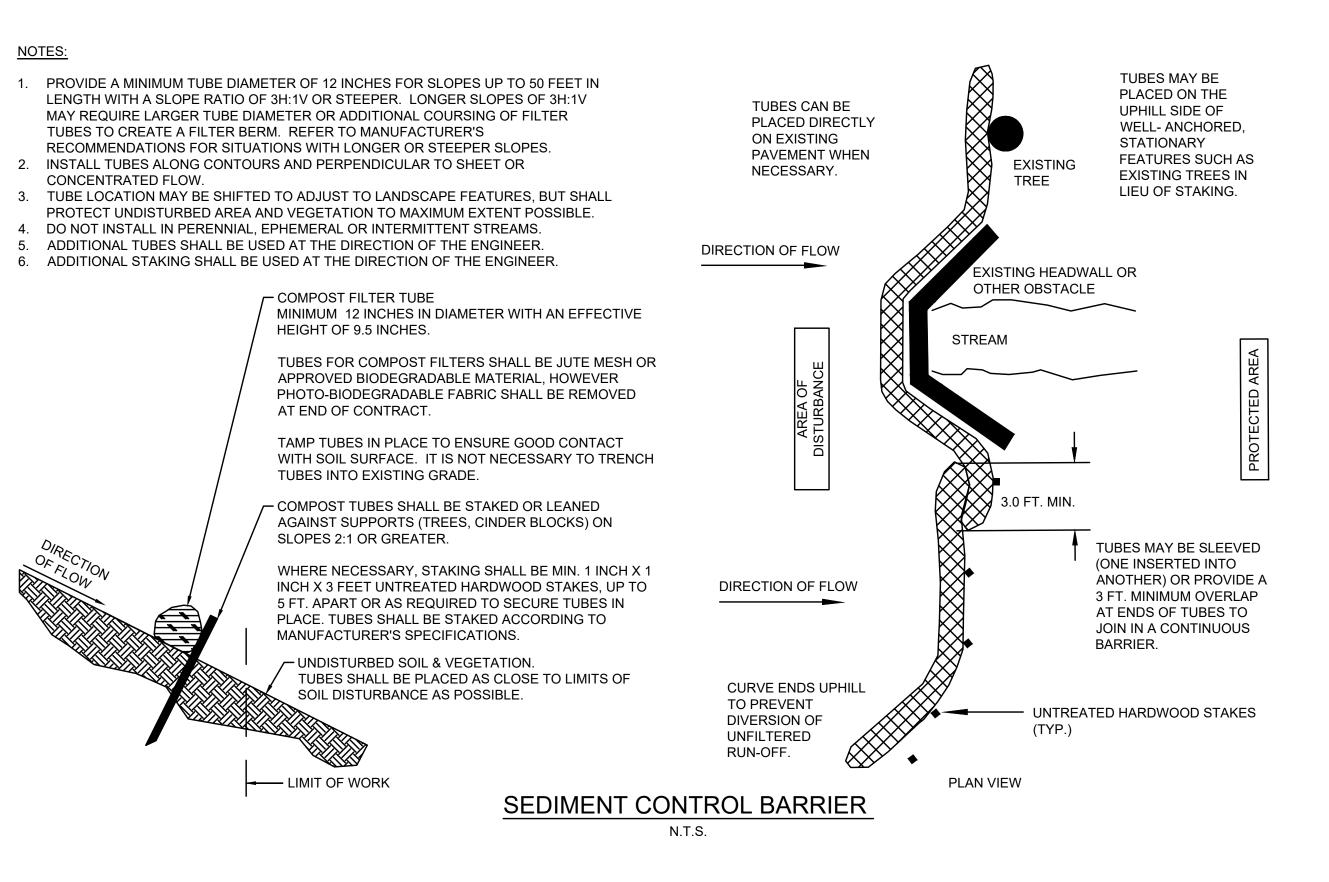
- INSTALL SILT SACK IN EXISTING CATCH BASINS BEFORE COMMENCING WORK, AND IN NEW CATCH BASINS IMMEDIATELY AFTER INSTALLATION OF STRUCTURE. MAINTAIN UNTIL BINDER COURSE PAVING IS COMPLETE OR A PERMANENT STAND OF GRASS HAS BEEN ESTABLISHED.
- 2. GRATE TO BE PLACED OVER SILT SACK.

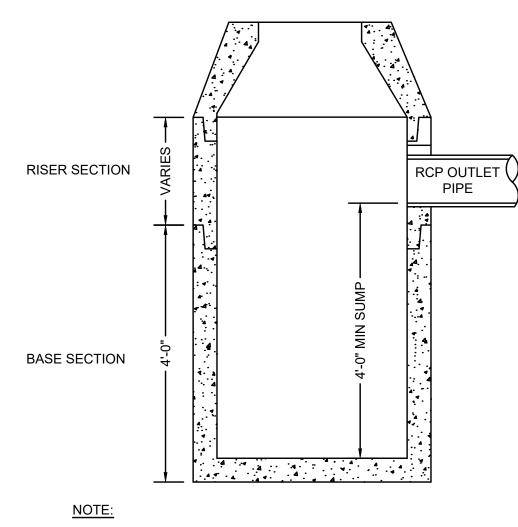
SECTION VIEW

3. SILT SACK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS AND CLEANING OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED.

## INLET PROTECTION SILT SACK IN CATCH BASIN

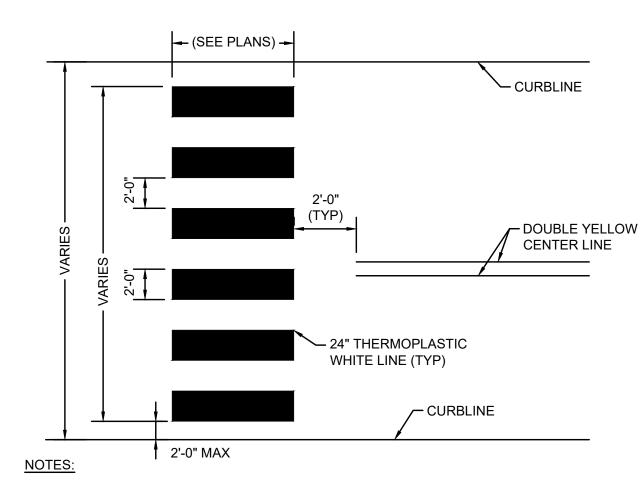
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ALL CATCH BASINS SHALL CONFORM TO MASSDOT CONSTRUCTION STANDARD E 201.4.0 EXCEPT FOR 4' SUMP DEPTH AS SHOWN

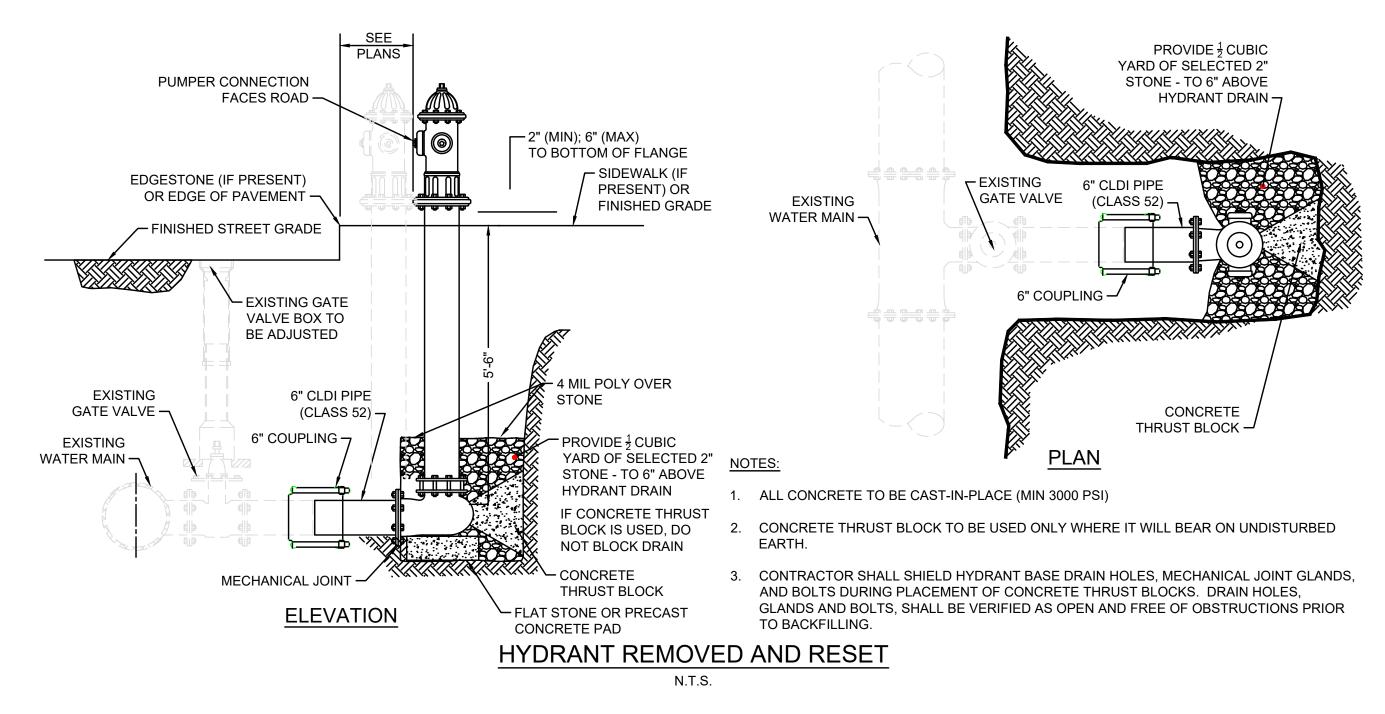
DEEP SUMP CATCH BASIN

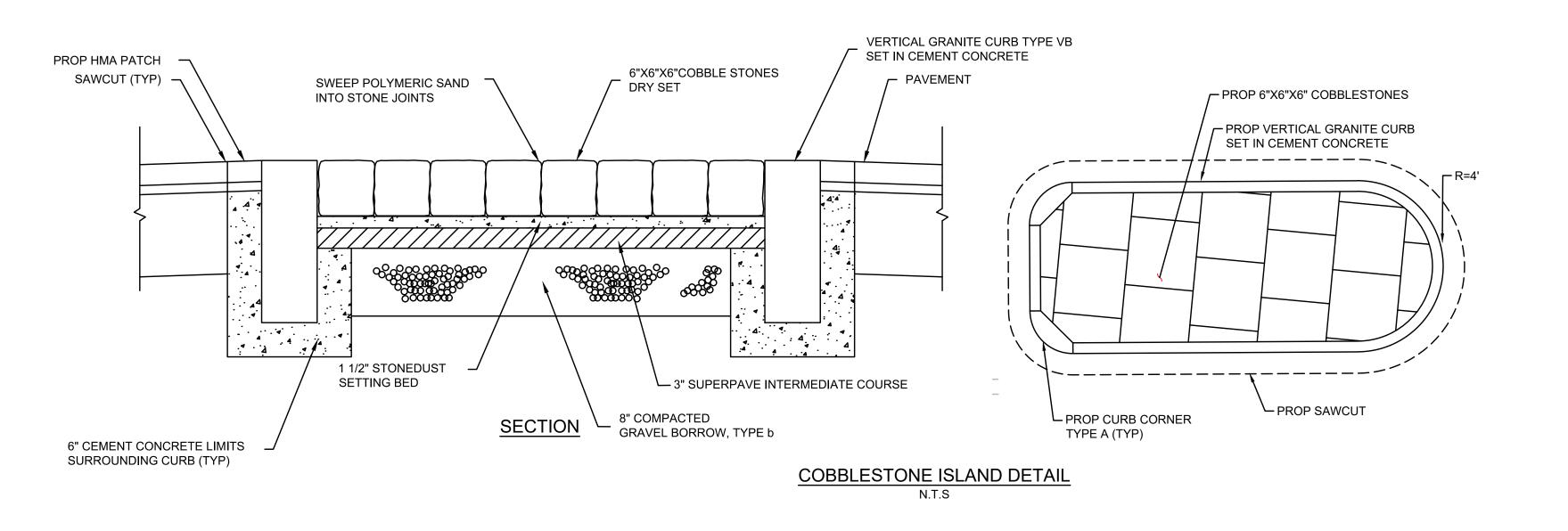


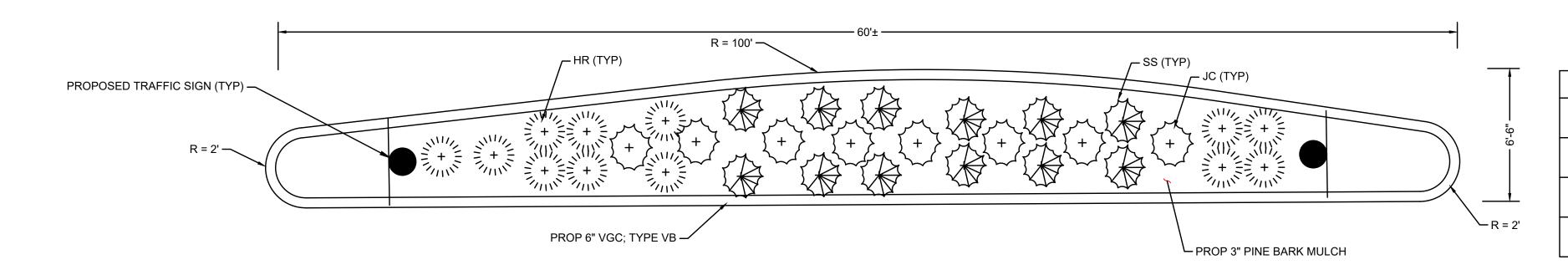
- ALL 12" LINES SHALL BE APPLIED IN ONE APPLICATION, NO COMBINATION OF LINES (TWO - 6" LINES) WILL BE ACCEPTED. ALL 24" LINES MAY BE EITHER ONE 24" LINE OR A COMBINATION OF TWO - 12" LINES.
- LAYOUT OF CROSSWALKS SHALL BE APPROVED BY THE ENGINEER PRIOR TO APPLICATION.
- 3. CROSSWALK BARS SHALL BE PLACED OUTSIDE THE VEHICULAR WHEEL PATH WHEREVER POSSIBLE.

## CROSSWALK PAVEMENT MARKING

NTS

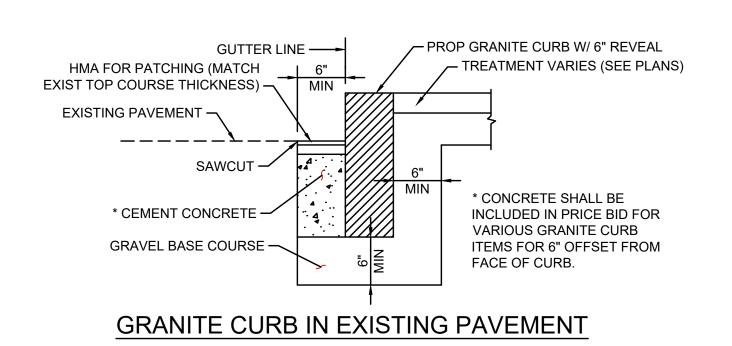


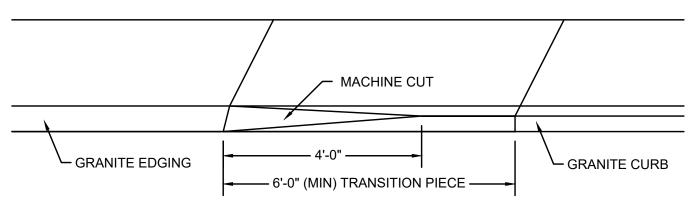




PROPOSED PLANTING SUMMARY TABLE										
KEY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	SPACING					
JC	$\odot$	JUNIPERUS CONFERTA 'BLUE PACIFIC'	BLUE PACIFIC JUNIPER	15" 18" CONT.	2' SPACING					
SS	<b>⊘</b>	SCHIZACHYRIUM SCOPARIUM 'CAROUSEL'	CAROUSEL LITTLE BLUESTEM	#1 CONT.	18" SPACING					
HR	31117 11 + 15 17 11 11 11 11 11 11 11 11 11 11 11 11 1	HEMERCOLLAS 'RUBYSTELLA'	RUBY STELLA DAYLILY	#1 CONT.	12" SPACING					
	JC SS	KEY SYMBOL  JC ↔  SS �	KEY SYMBOL BOTANICAL NAME  JC JUNIPERUS CONFERTA 'BLUE PACIFIC'  SCHIZACHYRIUM SCOPARIUM 'CAROUSEL'  HEMERCOLLAS	KEY SYMBOL BOTANICAL NAME COMMON NAME  JC JUNIPERUS CONFERTA 'BLUE PACIFIC' JUNIPER  SCHIZACHYRIUM SCOPARIUM 'CAROUSEL' BLUESTEM HEMERCOLLAS RUBY STELLA	KEY SYMBOL BOTANICAL NAME COMMON NAME SIZE  JC JUNIPERUS CONFERTA 'BLUE PACIFIC' SCHIZACHYRIUM SCOPARIUM 'CAROUSEL' HR HEMERCOLLAS RUBY STELLA #1 CONT.					

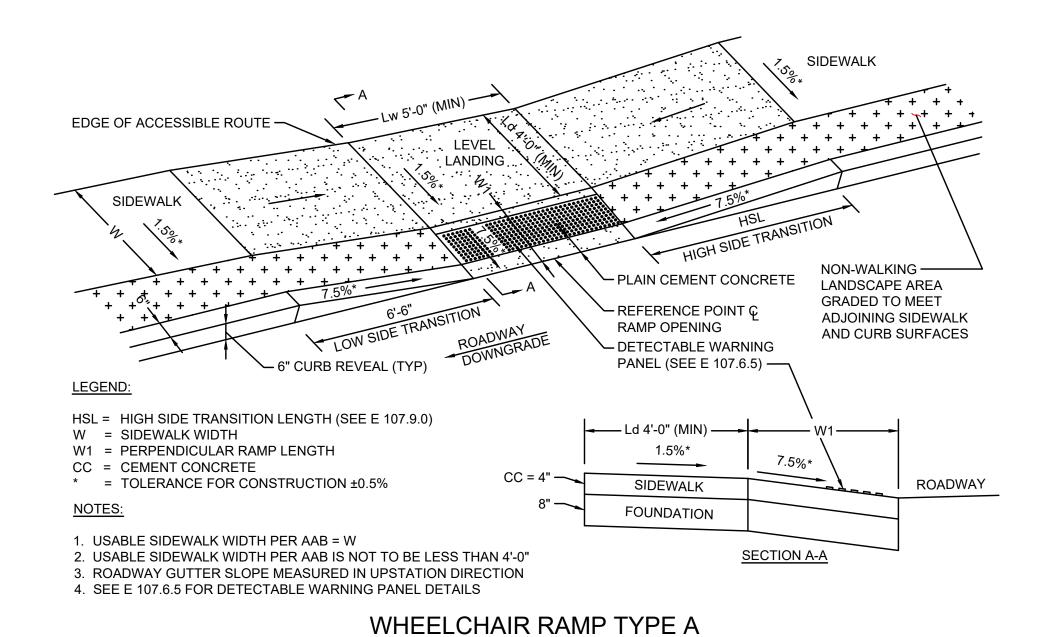
LANDSCAPED ISLAND DETAIL N.T.S





GRANITE CURB SPLAYED END

N.T.S.



N.T.S.

SECTION A-A

EDGE OF ACCESSIBLE ROUTE SIDEWALK LOAM & SEED REVEAL (TYP) NON-WALKING + LANDSCAPED AREA + GRADED TO MEET . + + + + + ADJOINING SIDEWALK + + + + AND CURB SURFACES + + + + + + + + + + + + + + + PLAIN CEMENT CONCRETE -LEGEND: REFERENCE POINT C 4'-0" MIN/ 6'-6" TYP RAMP OPENING — HSL = HIGH SIDE TRANSITION CURB TRANSITION LENGTH (SEE E 107.9.0) ∠DETECTABLE WARNING W = SIDEWALK WIDTH PANEL (SEE E 107.6.5) — W1 = PERPENDICULAR RAMP LENGTH SIDEWALK — CC = CEMENT CONCRETE 4.5%\* (MAX) \* = TOLERANCE FOR LEVEL CONSTRUCTION ±0.5% ENTRANCE 1.5%\* CC = 4" — SIDEWALK ROADWAY FOUNDATION 1. USABLE SIDEWALK WIDTH PER AAB = W 2. USABLE SIDEWALK WIDTH PER AAB IS NOT TO BE LESS THAN 4'-0" 3. ROADWAY GUTTER SLOPE MEASURED IN UPSTATION DIRECTION SECTION A-A 4. SEE E 107.6.5 FOR DETECTABLE WARNING PANEL DETAILS

WHEELCHAIR RAMP TYPE B

N.T.S.

EDGE OF ACCESSIBLE ROUTE -LOAM & SEED 6" CURB — REVEAL (TYP) REFERENCE POINT C LEGEND: RAMP OPENING — PLAIN CEMENT CONCRETE -HSL = HIGH SIDE TRANSITION LENGTH (SEE E 107.9.0) - DETECTABLE WARNING W = SIDEWALK WIDTH PANEL (SEE E 107.6.5) CC = CEMENT CONCRETE SIDEWALK —— \* = TOLERANCE FOR CONSTRUCTION ±0.5% 4.5%\* LEVEL 7.5%\* ENTRANCE CC = 4" — 1.5%\* SIDEWALK ROADWAY FOUNDATION 1. USABLE SIDEWALK WIDTH PER AAB = W-6" 2. USABLE SIDEWALK WIDTH PER AAB IS NOT TO BE LESS THAN 4'-0"

WHEELCHAIR RAMP TYPE C

3. ROADWAY GUTTER SLOPE MEASURED IN UPSTATION DIRECTION

4. SEE E 107.6.5 FOR DETECTABLE WARNING PANEL DETAILS

5. SEE E 107.6.0 FOR ALL OTHER DETAILS

EDGE OF ACCESSIBLE ROUTE -SIDEWALK LOAM & SEED LEVEL LANDING. 6" CURB REVEAL (TYP) -6'-6" LOW SIDE TRANSITION - PLAIN CEMENT CONCRETE ROADWAY LEGEND: DOWNGRADE ∼ REFERENCE POINT Ç RAMP OPENING HSL = HIGH SIDE TRANSITION LENGTH (SEE E 107.9.0) W = SIDEWALK WIDTH ► DETECTABLE WARNING CC = CEMENT CONCRETE PANEL (SEE E 107.6.5) — \* = TOLERANCE FOR CONSTRUCTION ±0.5% ----- W = SIDEWALK WIDTH -----1.5%\* ROADWAY CC = 4" — 1. USABLE SIDEWALK WIDTH PER AAB = W-6" SIDEWALK 2. USABLE SIDEWALK WIDTH PER AAB IS NOT TO BE LESS THAN 4'-0" 3. ROADWAY GUTTER SLOPE MEASURED IN UPSTATION DIRECTION FOUNDATION 4. SEE E 107.6.5 FOR DETECTABLE WARNING PANEL DETAILS 5. SEE E 107.2.1 FOR ALL OTHER DETAILS SECTION A-A

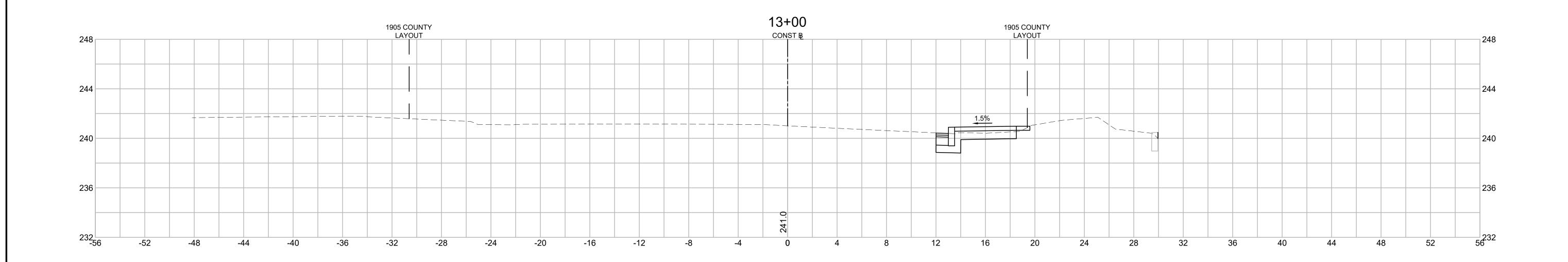
EDGE OF ACCESSIBLE ROUTE -Lw 5'-0" (MIN) HIGH SIDE TRANSITION I SIDEWALK %[∵ LEVEL · LANDING . LOAM & SEED - NON-WALKING LANDSCAPED AREA - PLAIN CEMENT CONCRETE L EDGE OF PAVEMENT **GRADED TO MEET** - DETECTABLE WARNING LEGEND: ADJOINING CURB AND ROADWAY PANEL (SEE E 107.6.5) — SIDEWALK SURFACES DOWNGRADE – REFERENCE POINT Q HSL = HIGH SIDE TRANSITION LENGTH (SEE E 107.9.0) RAMP OPENING W = SIDEWALK WIDTH W1 = PERPENDICULAR RAMP LENGTH CC = CEMENT CONCRETE — Ld 4'-0" (MIN) —— \* = TOLERANCE FOR CONSTRUCTION ±0.5% 1.5%\* CC = 4" — ROADWAY SIDEWALK 1. USABLE SIDEWALK WIDTH PER AAB = W FOUNDATION 2. USABLE SIDEWALK WIDTH PER AAB IS NOT TO BE LESS THAN 4'-0" 3. ROADWAY GUTTER SLOPE MEASURED IN UPSTATION DIRECTION 4. SEE E 107.6.5 FOR DETECTABLE WARNING PANEL DETAILS SECTION A-A

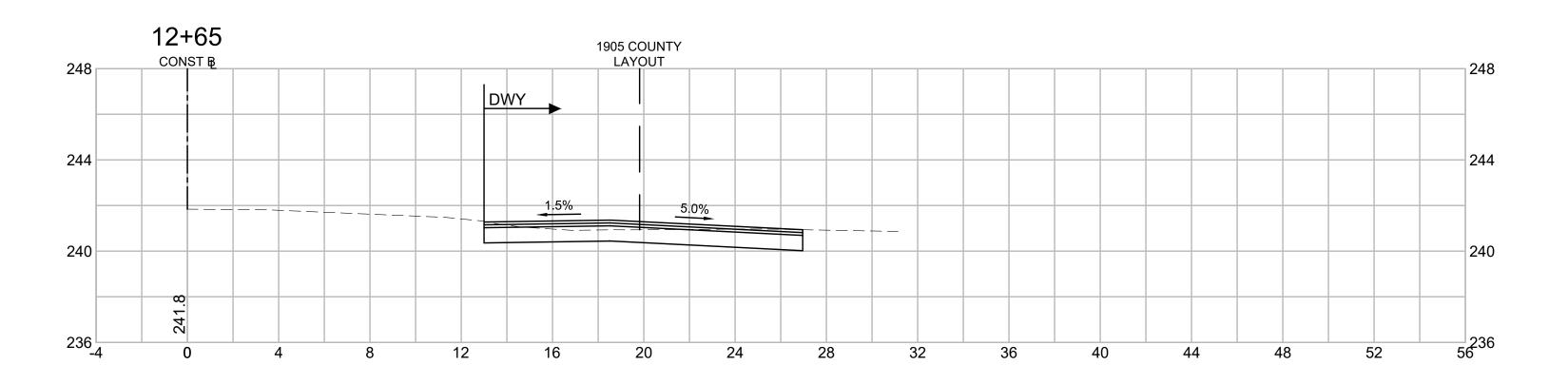
WHEELCHAIR RAMP TYPE D

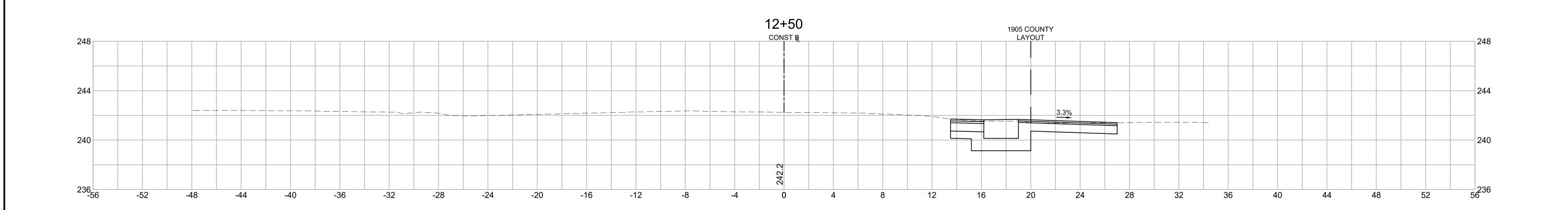
N.T.S.

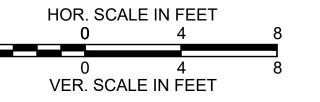
WHEELCHAIR RAMP TYPE E

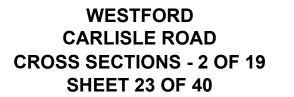
WESTFORD
CARLISLE ROAD
CROSS SECTIONS - 1 OF 19
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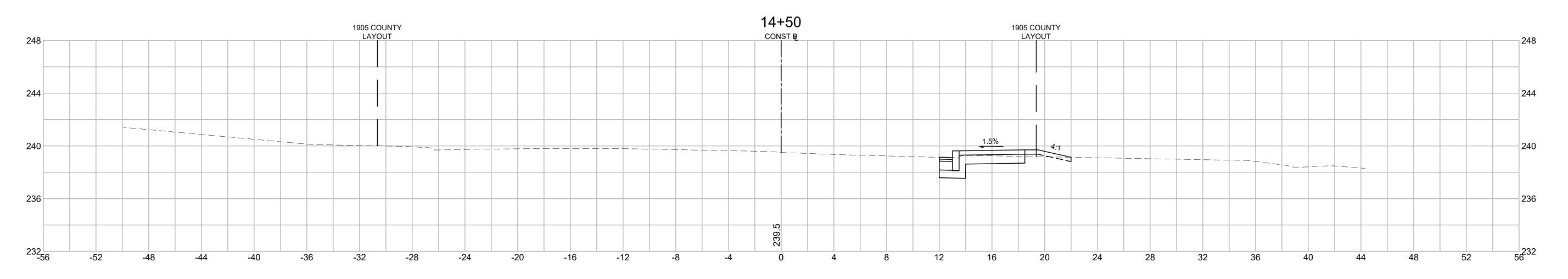


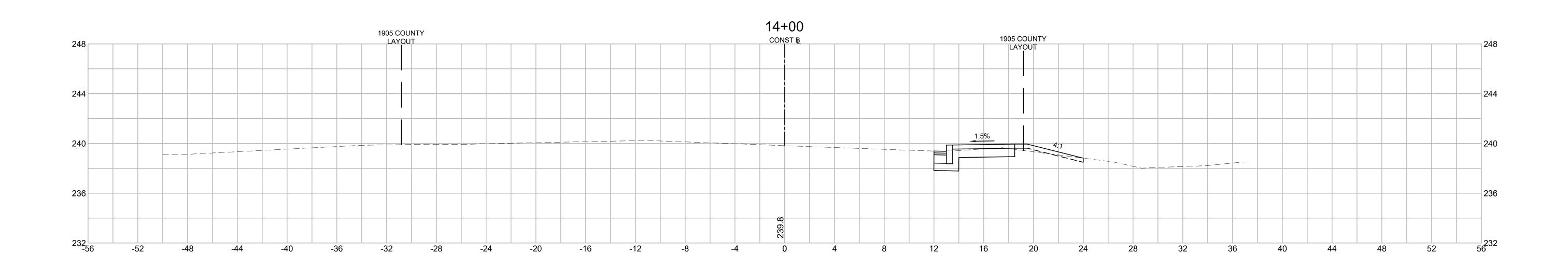


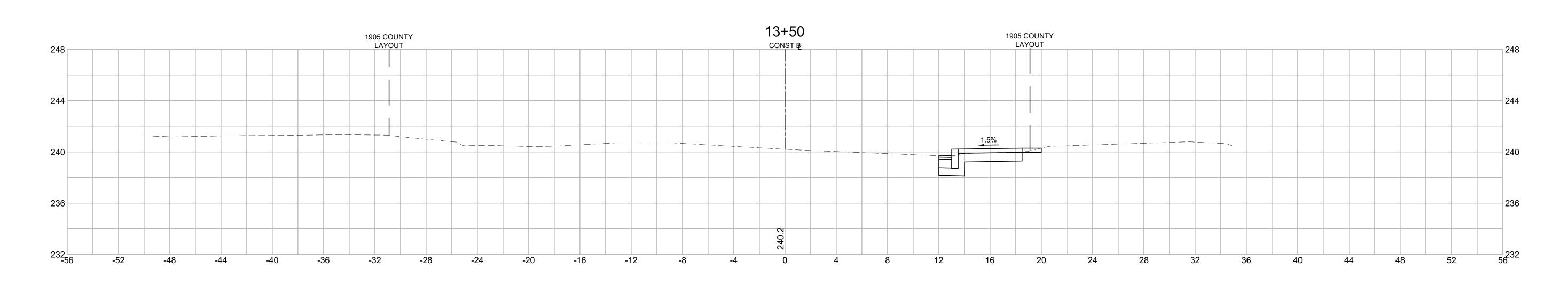


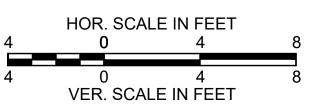


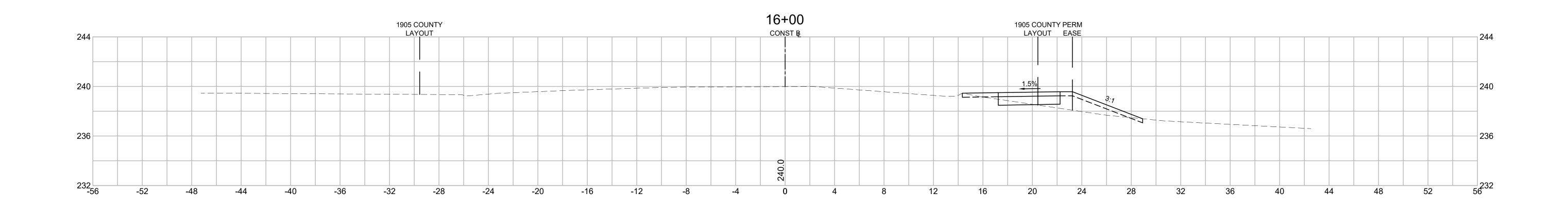


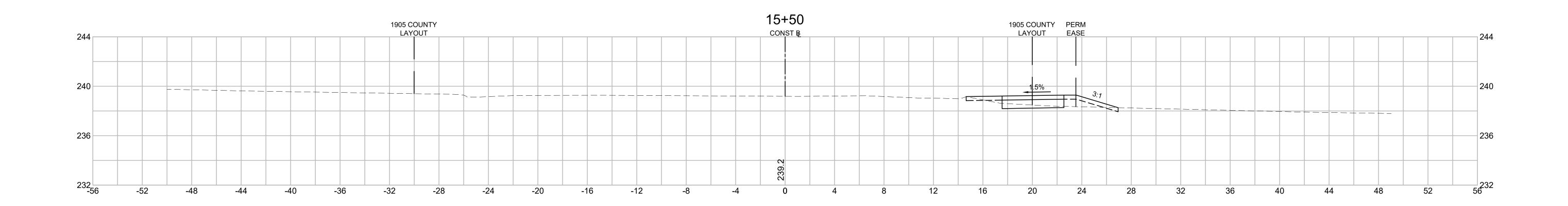


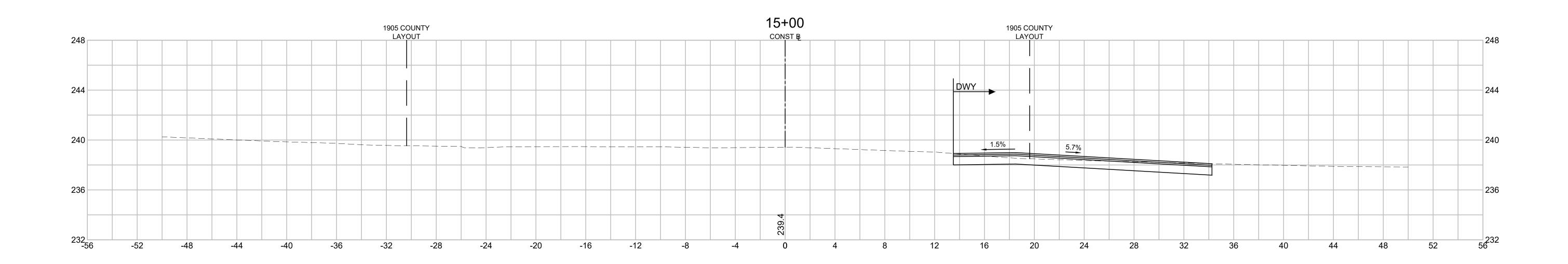


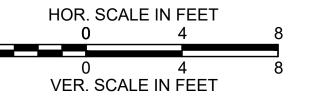


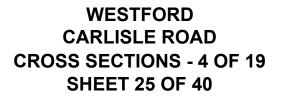


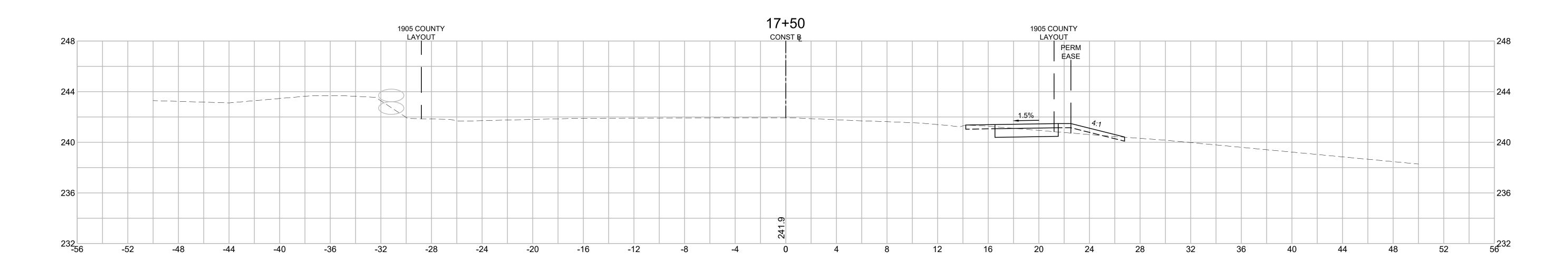


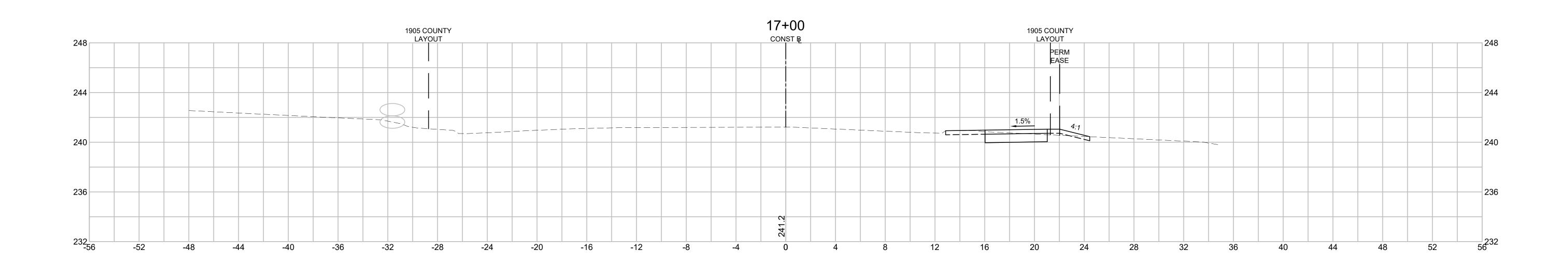


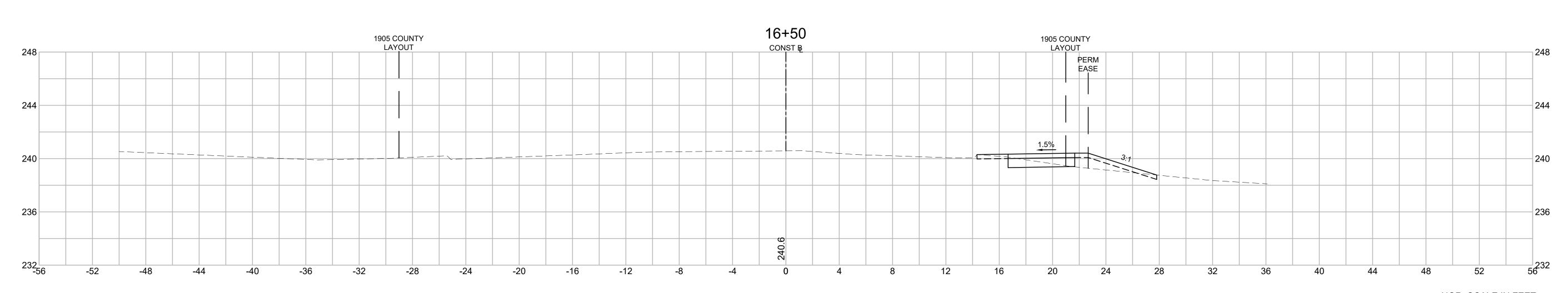




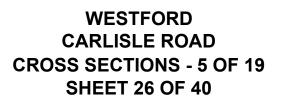


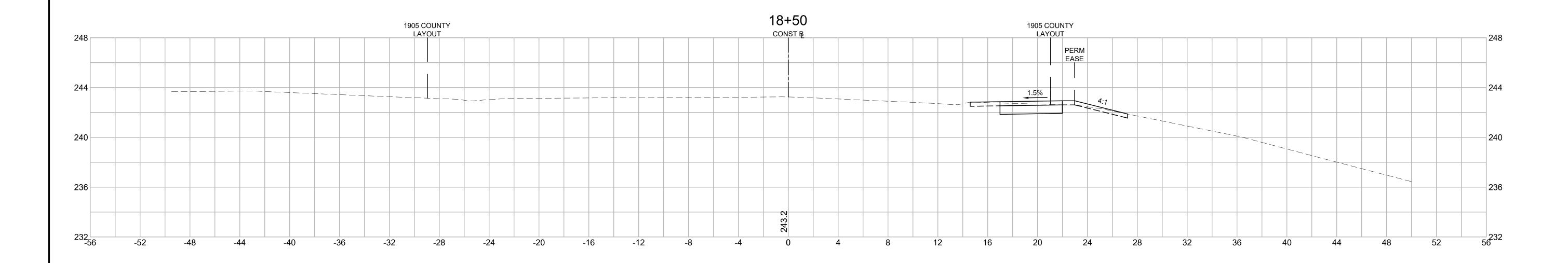


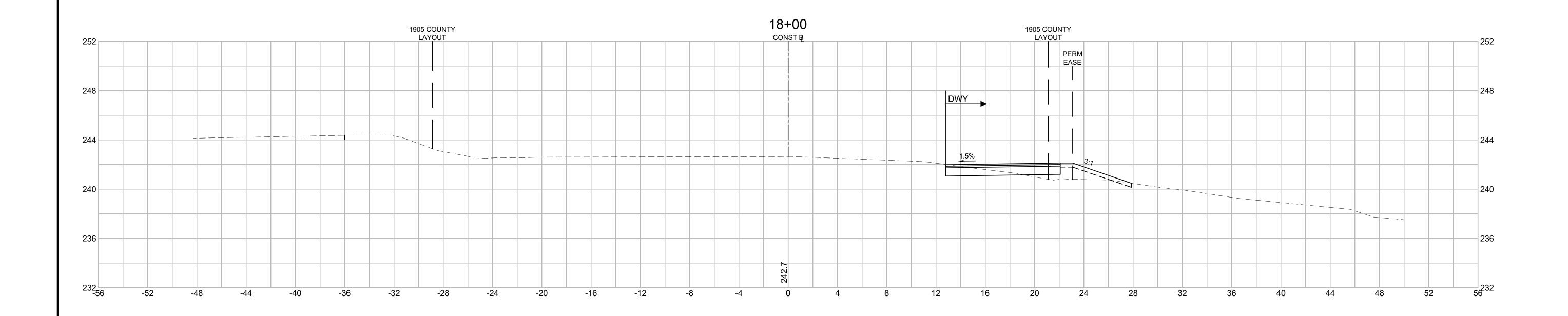


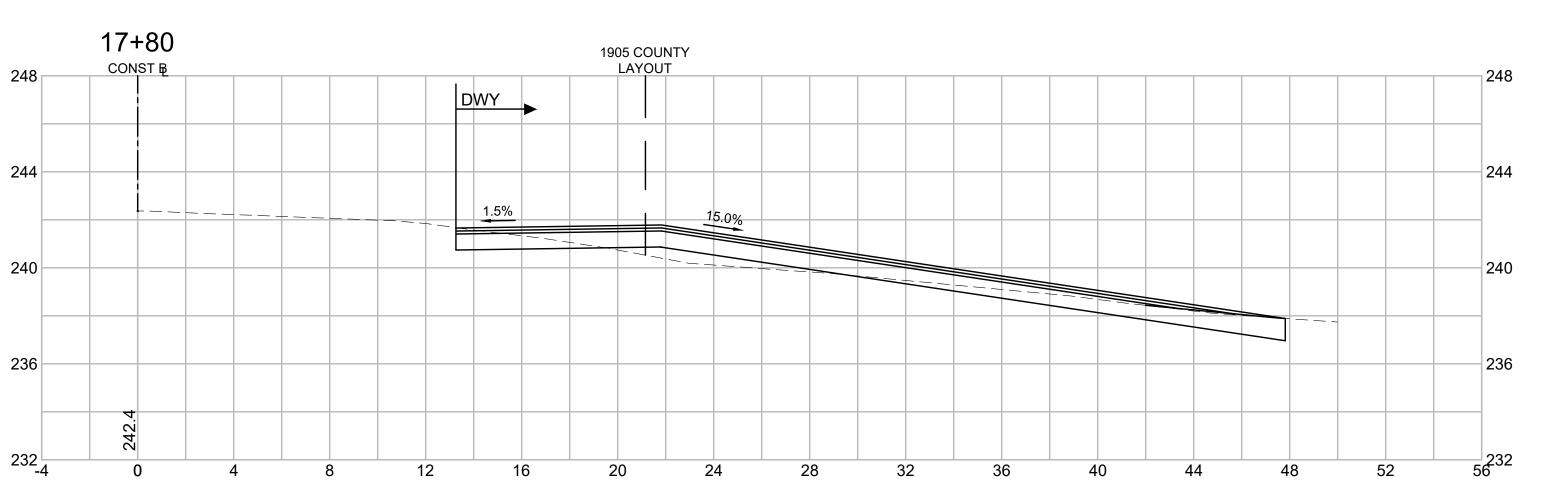


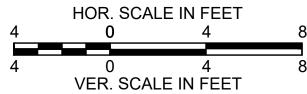


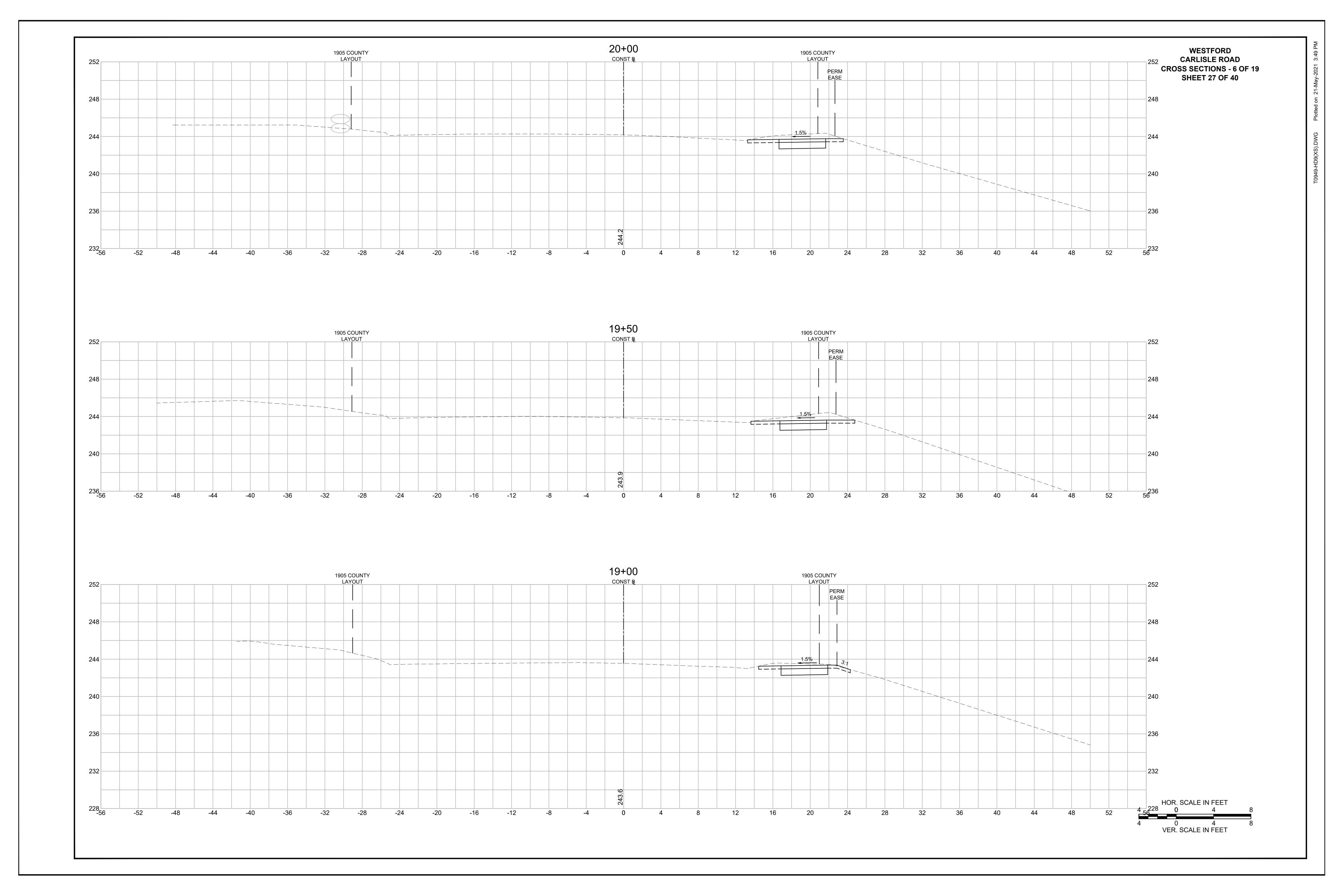


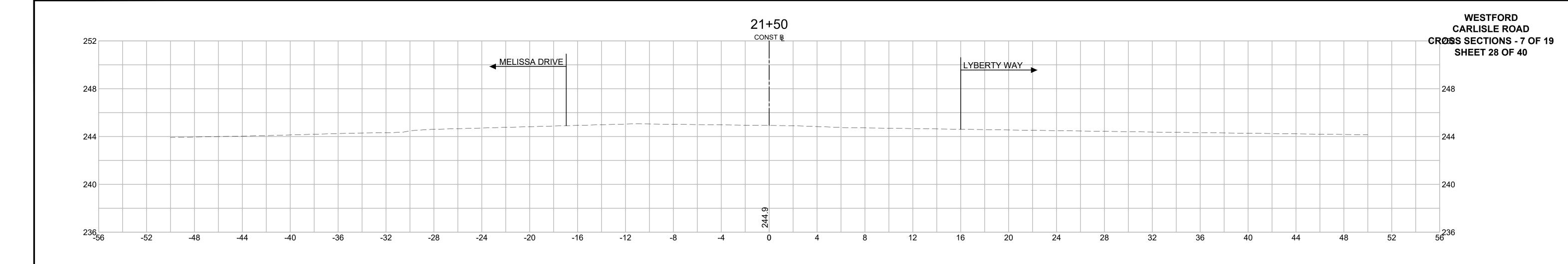


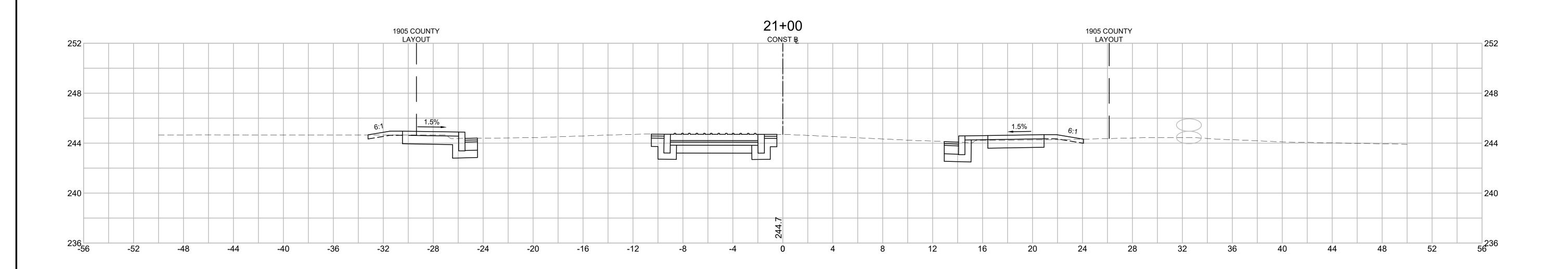


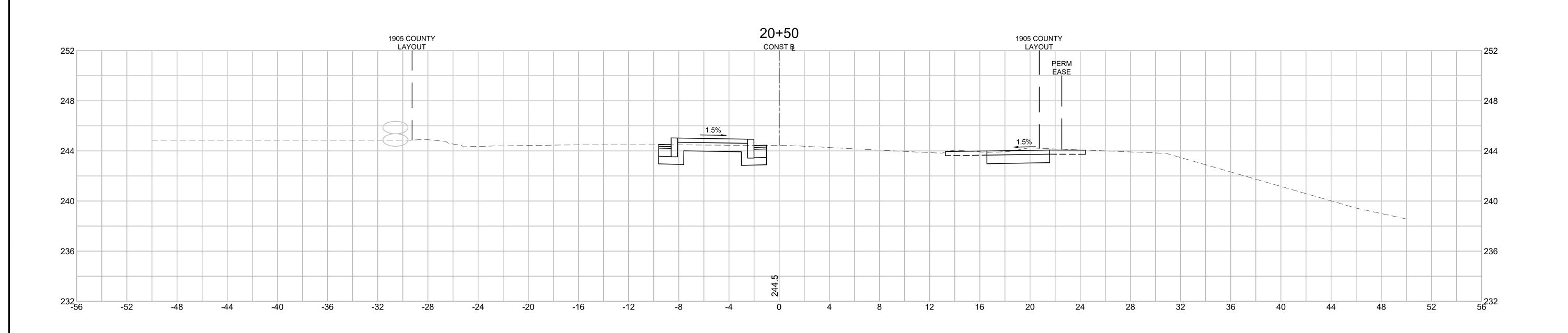


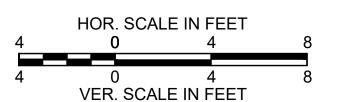


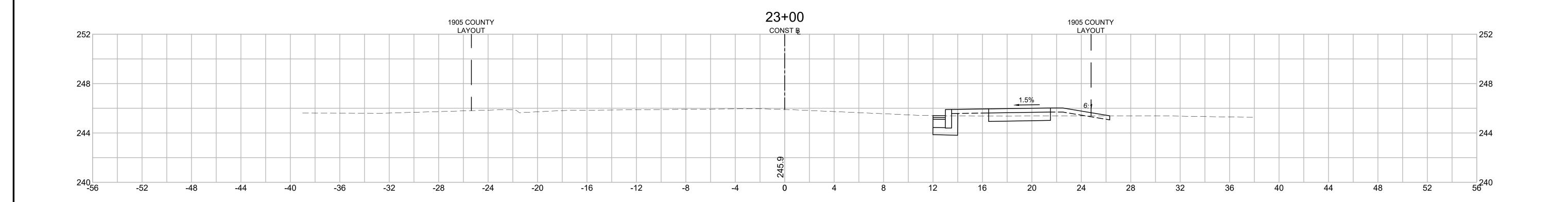


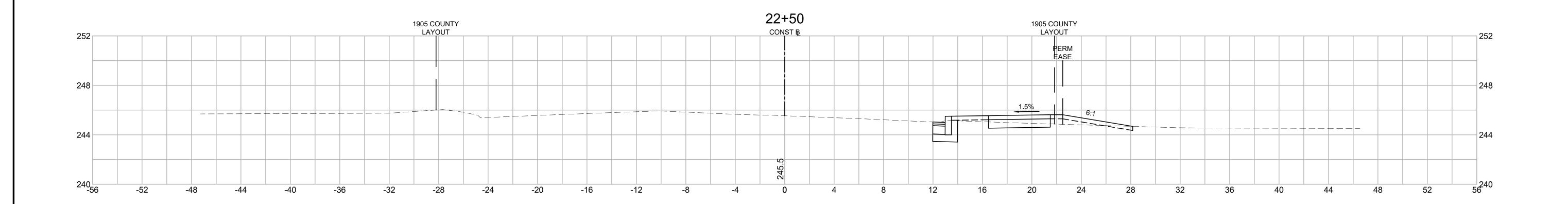


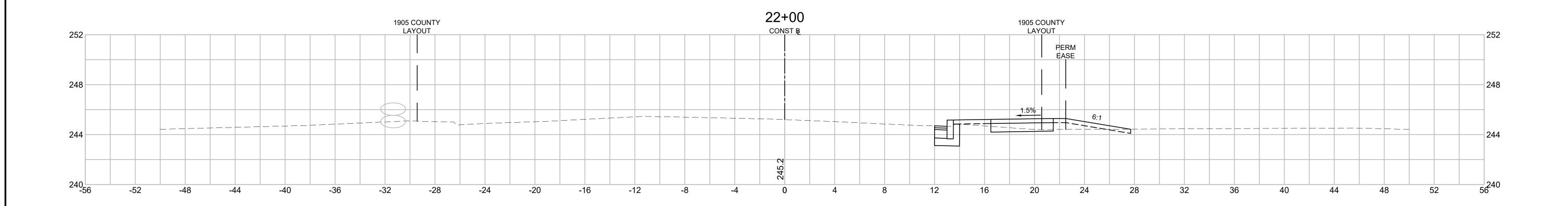


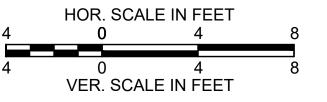




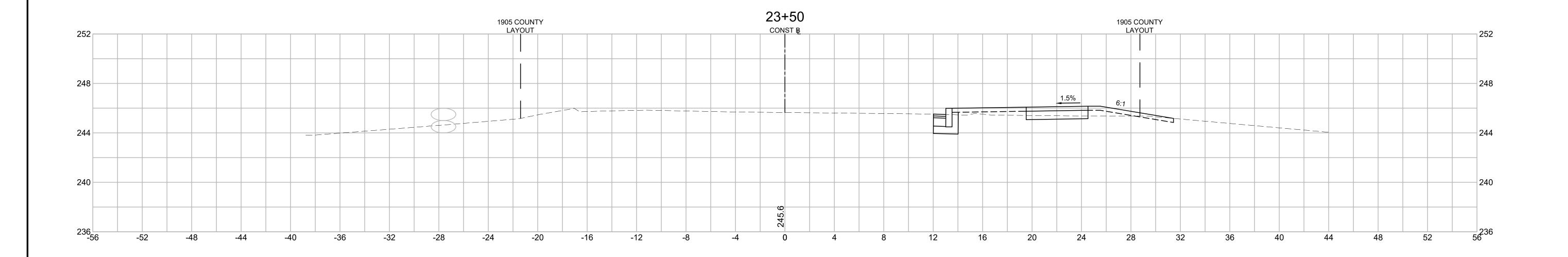


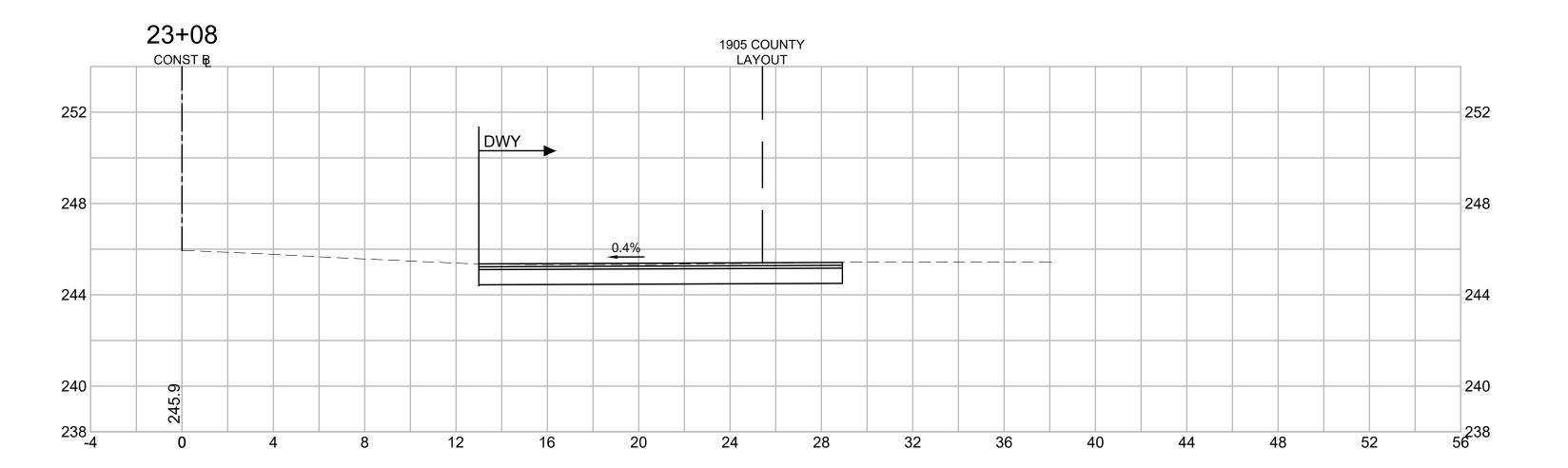






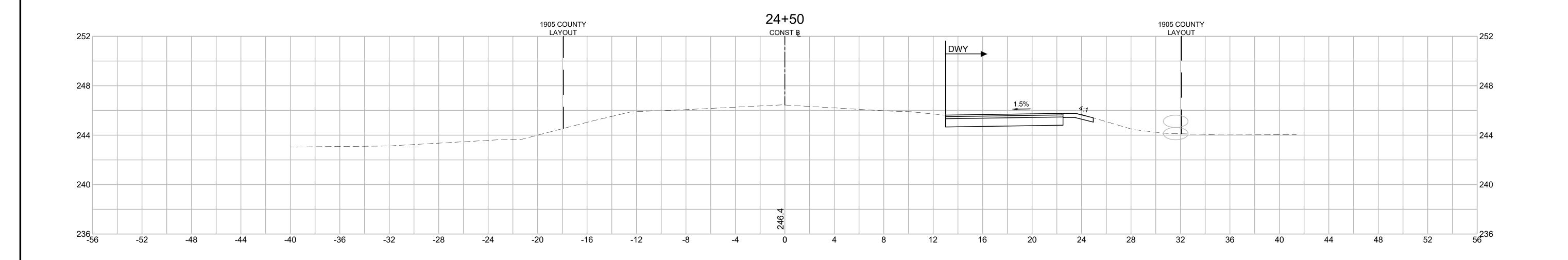
WESTFORD
CARLISLE ROAD
CROSS SECTIONS - 9 OF 19
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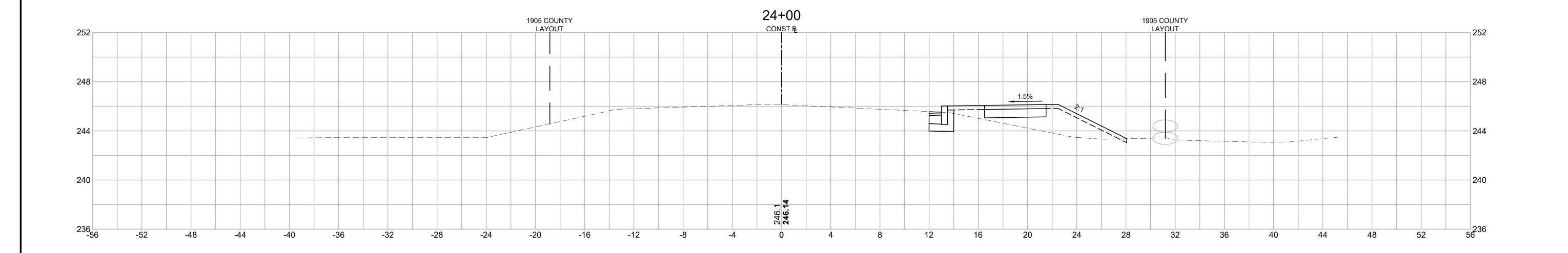


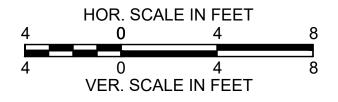




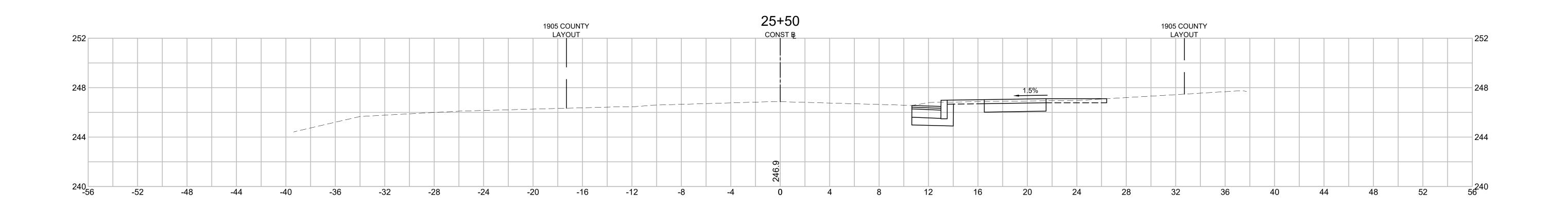
WESTFORD
CARLISLE ROAD
CROSS SECTIONS - 10 OF 19
SHEET 31 OF 40

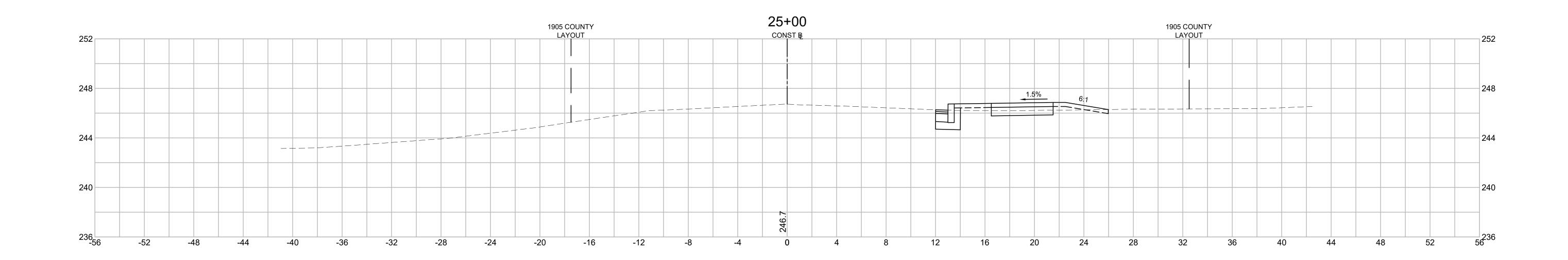


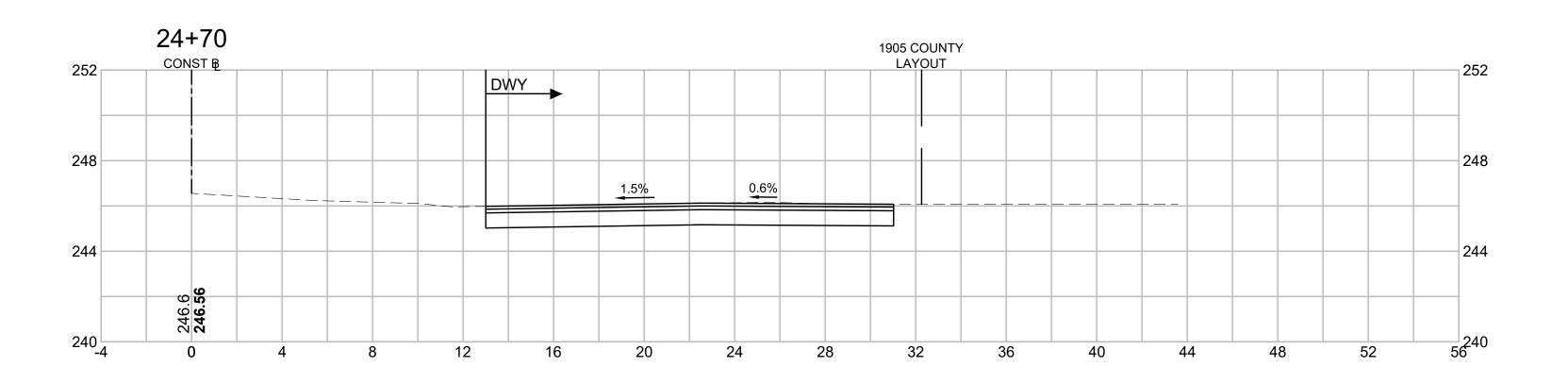




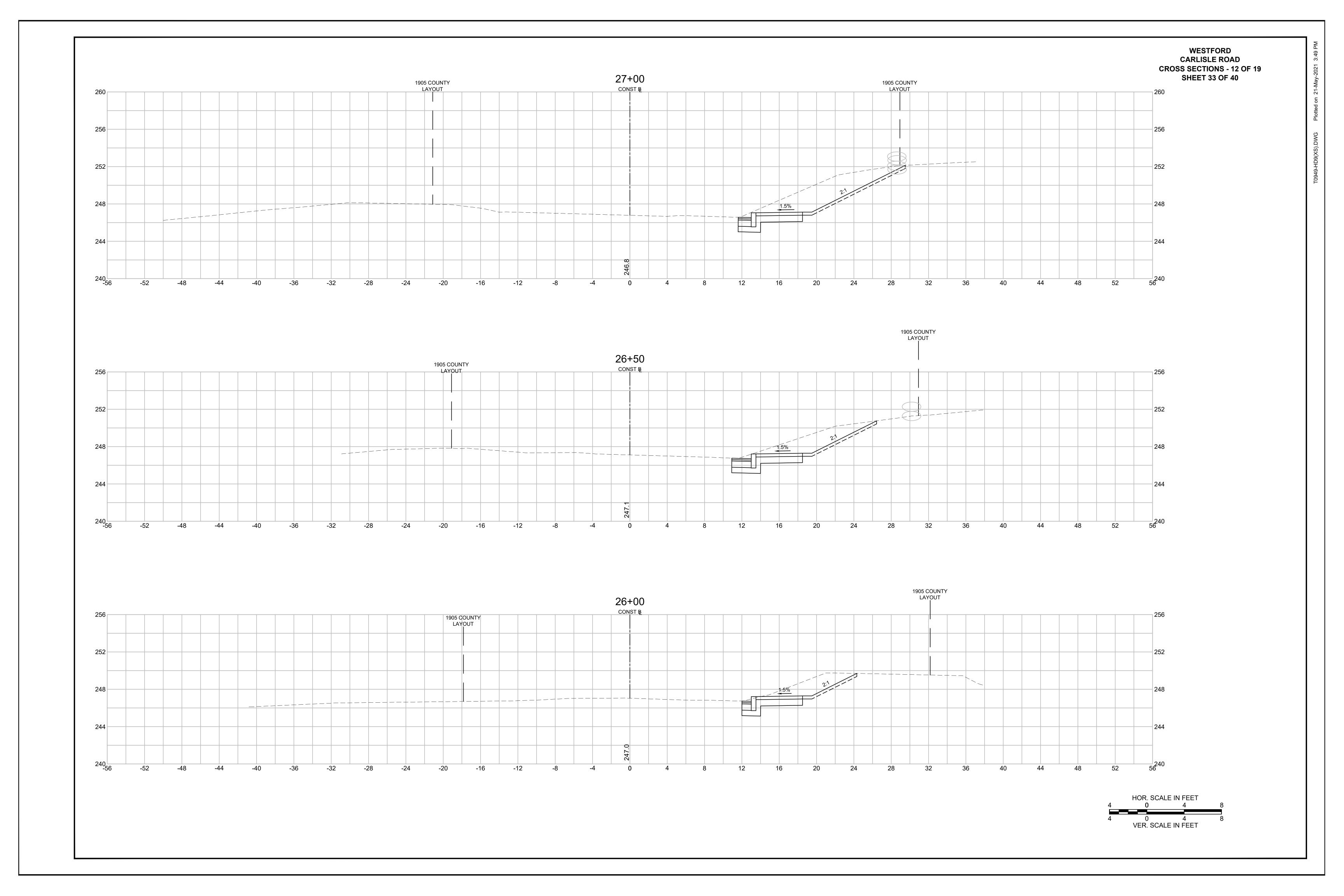
WESTFORD
CARLISLE ROAD
CROSS SECTIONS - 11 OF 19
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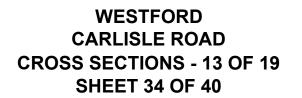


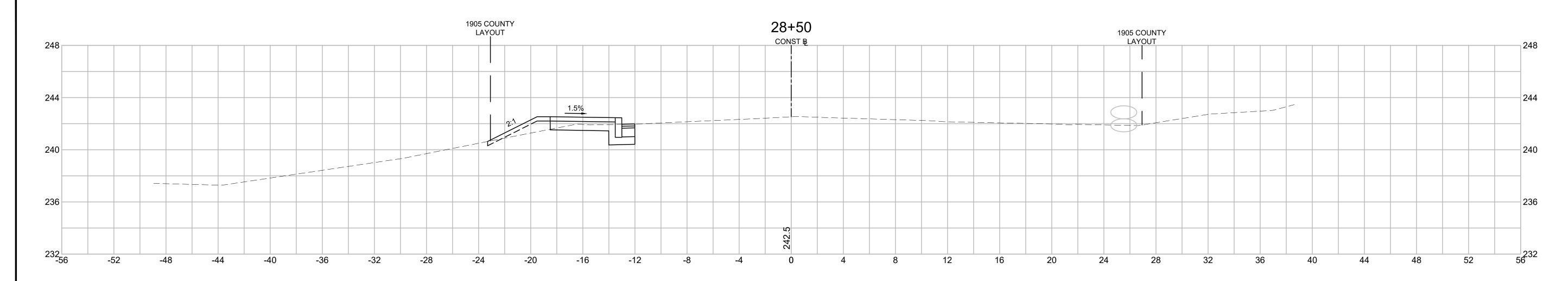


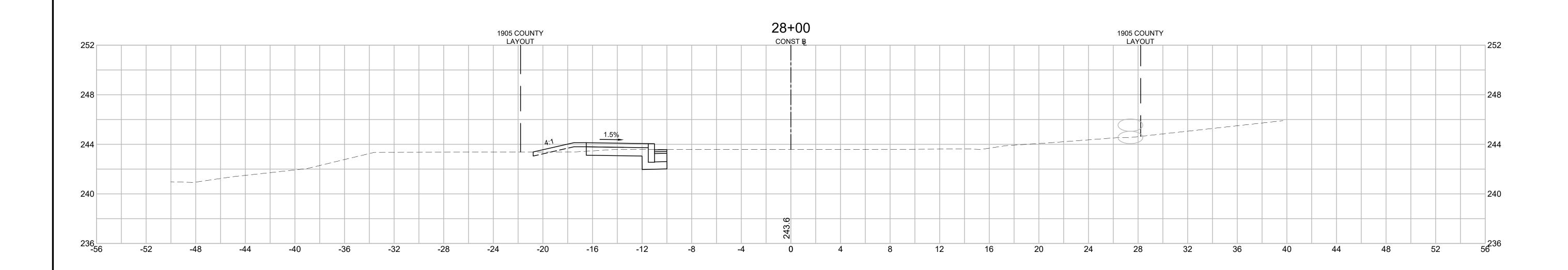


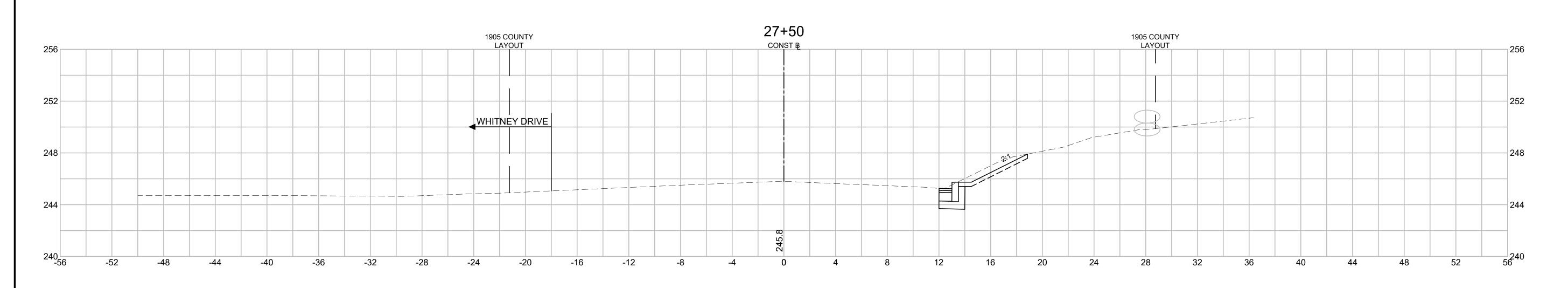


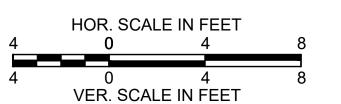




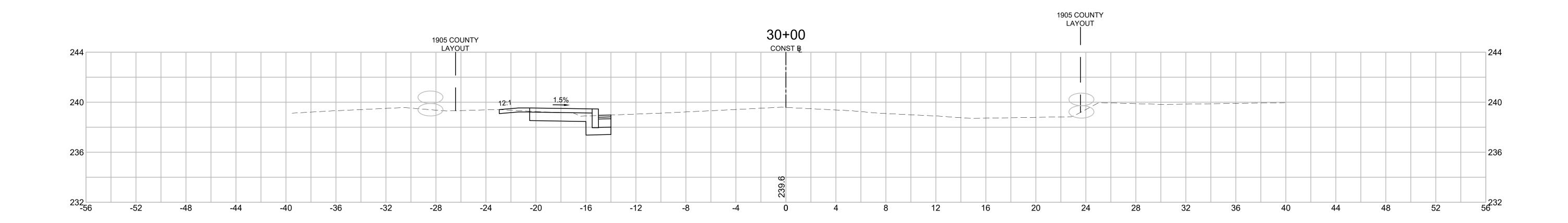


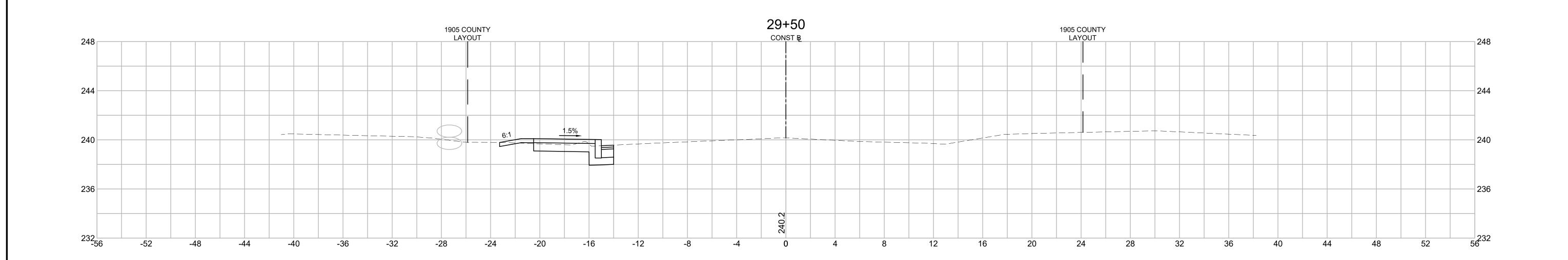


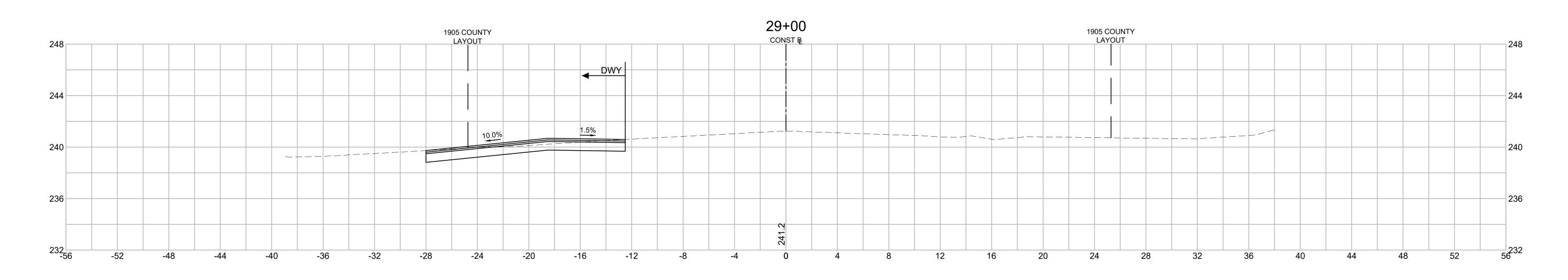


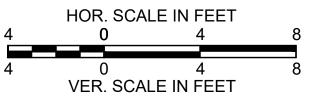


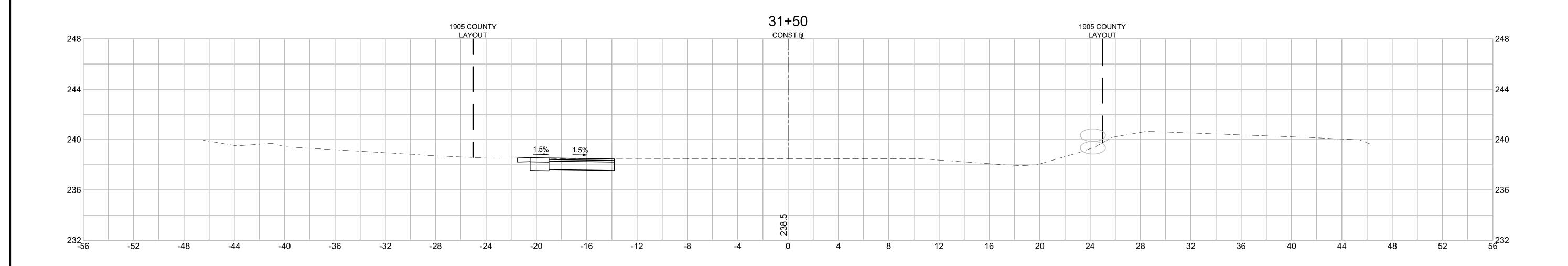
WESTFORD CARLISLE ROAD CROSS SECTIONS - 14 OF 19 SHEET 35 OF 40

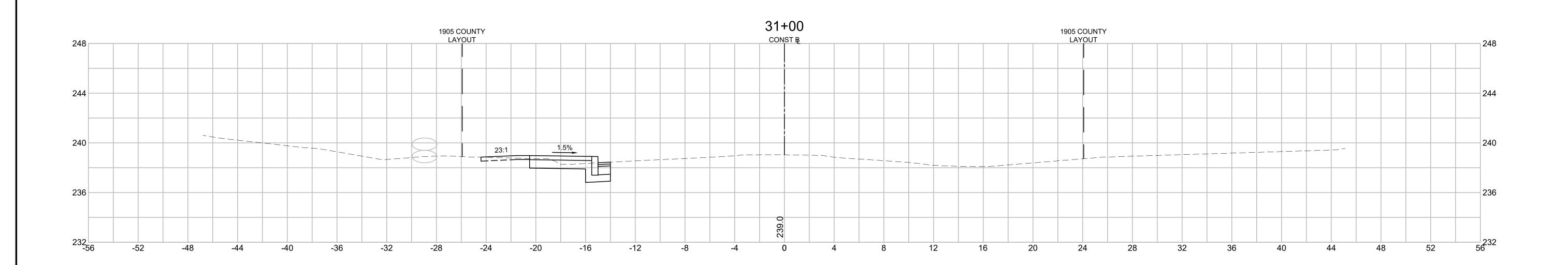


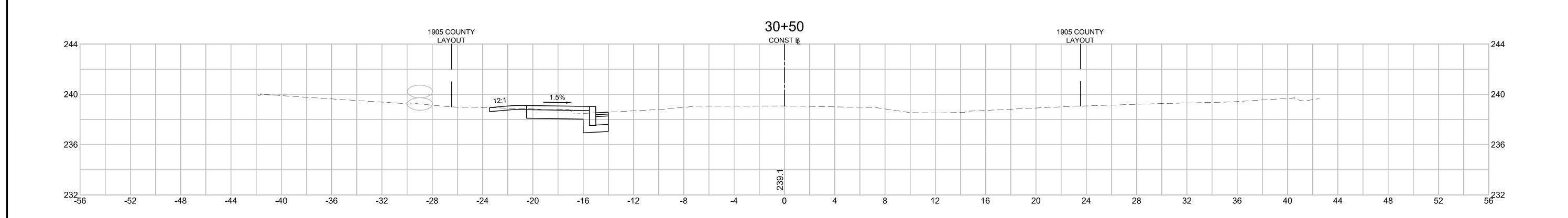


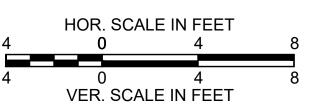




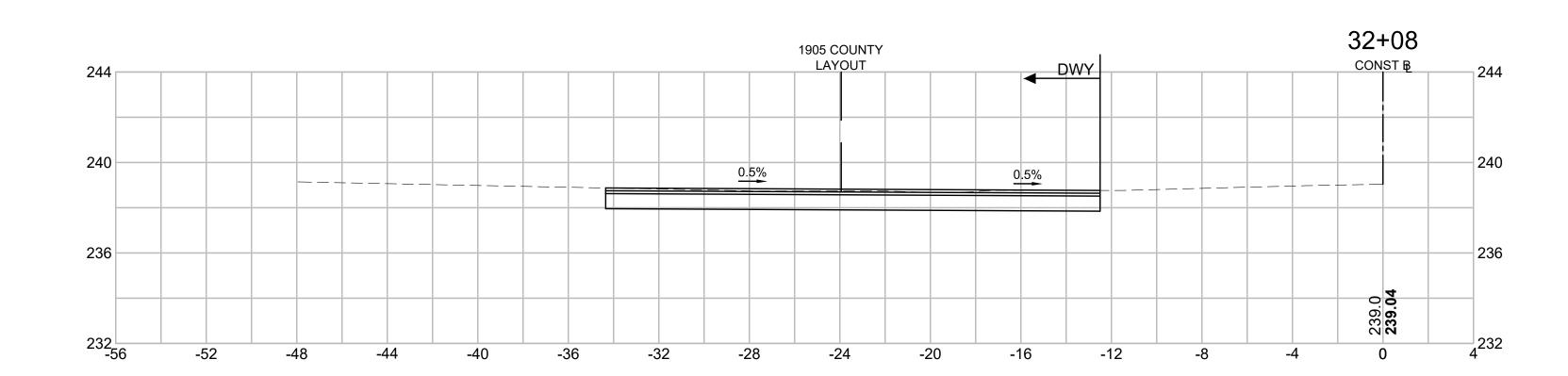


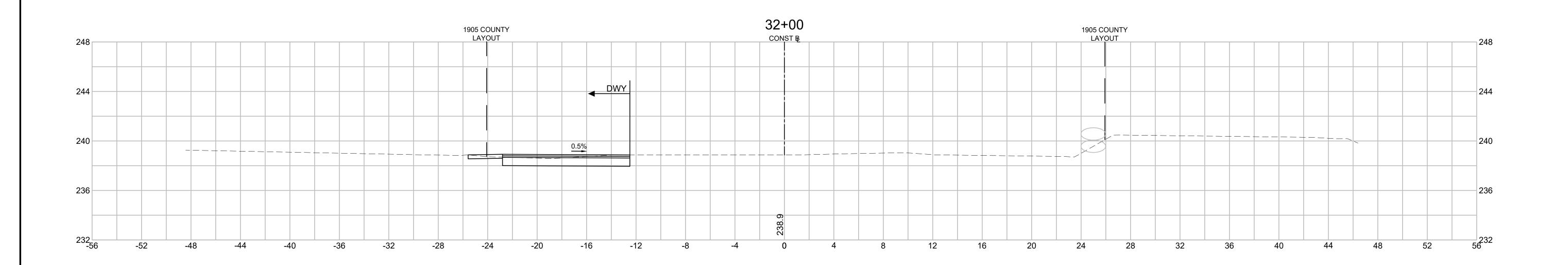


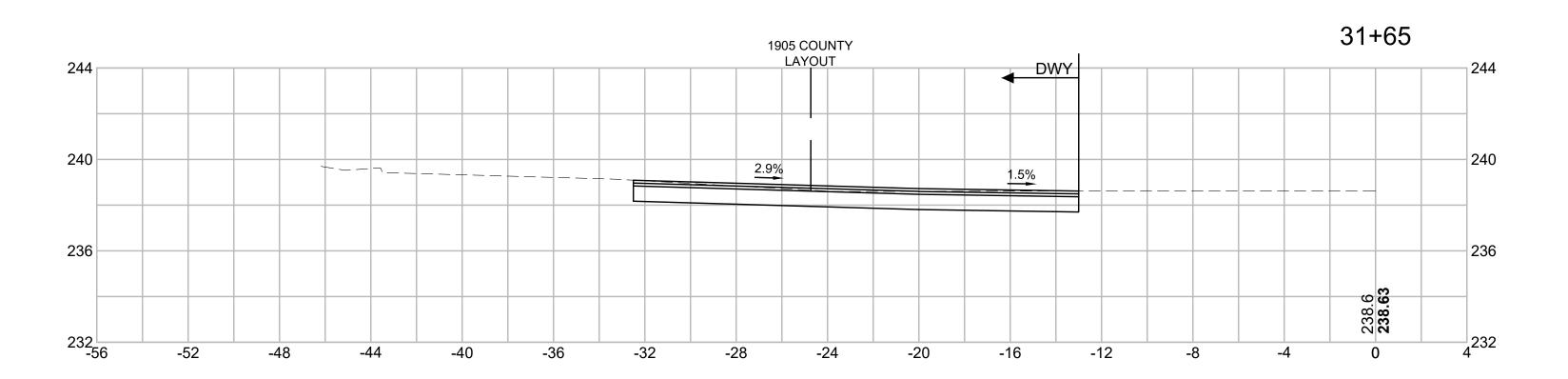




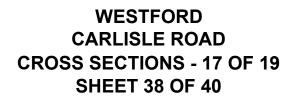
WESTFORD CARLISLE ROAD CROSS SECTIONS - 16 OF 19 SHEET 37 OF 40

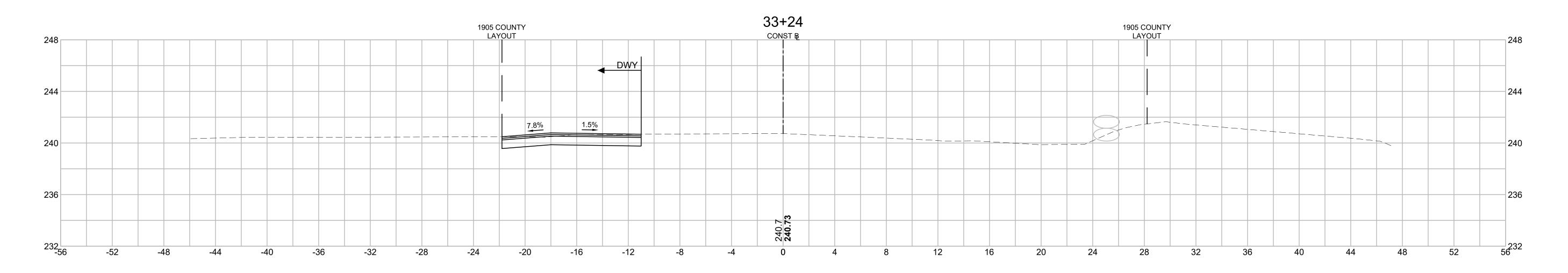


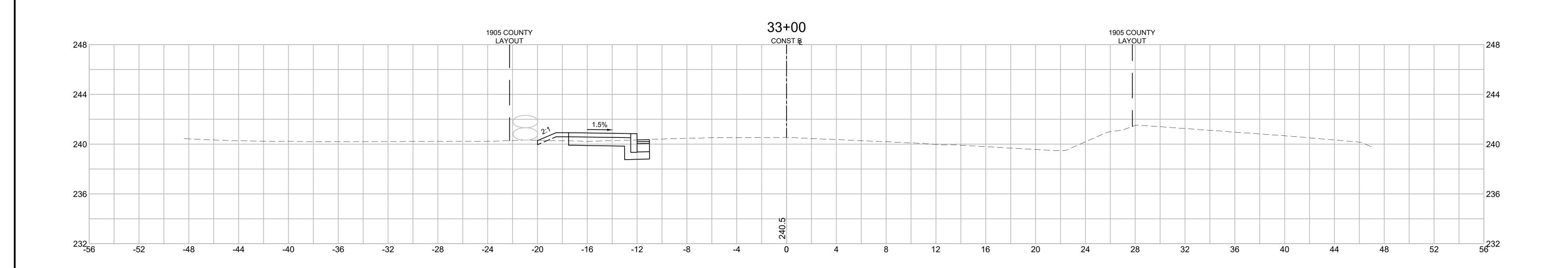


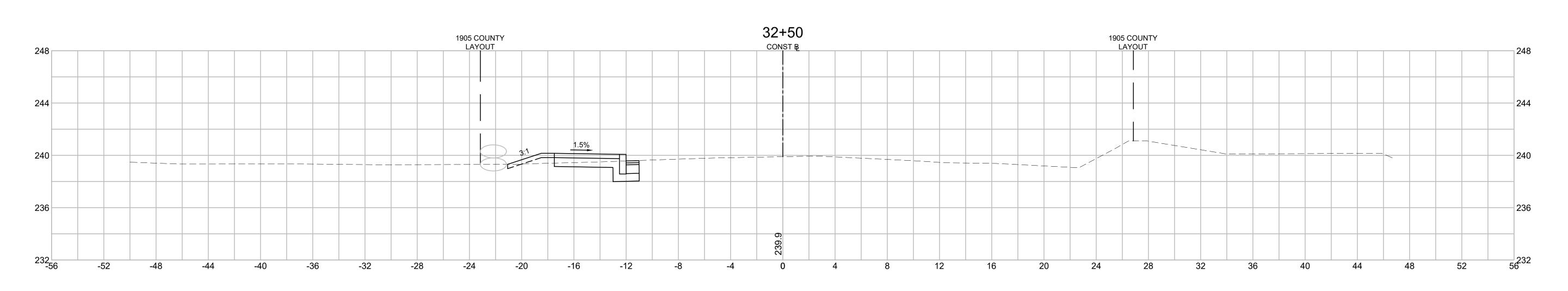


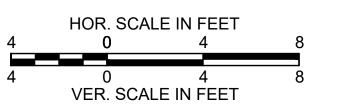


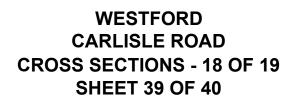


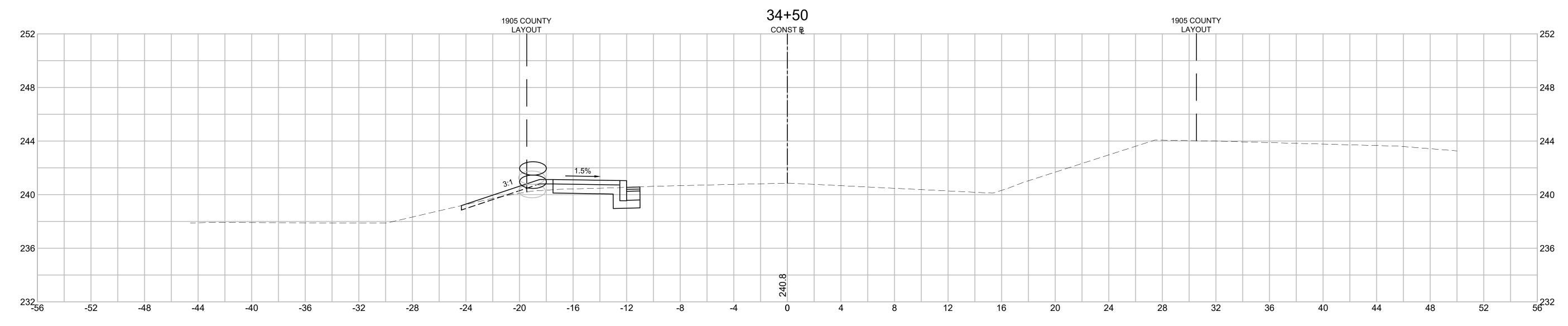


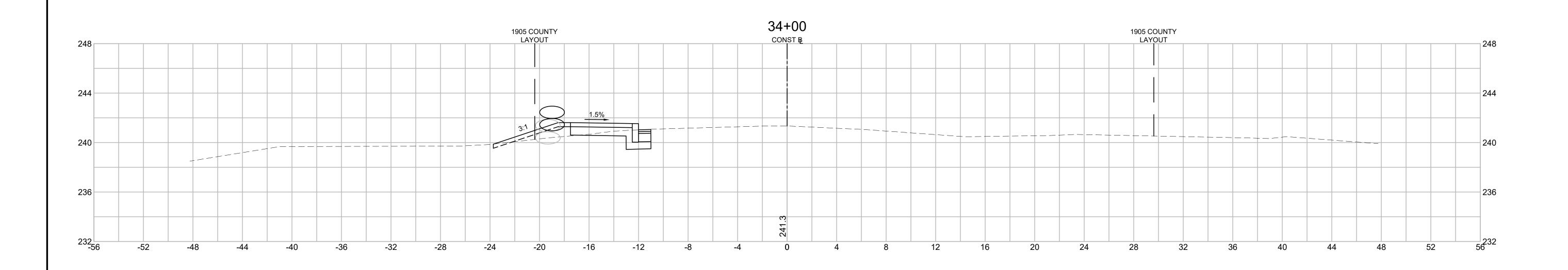


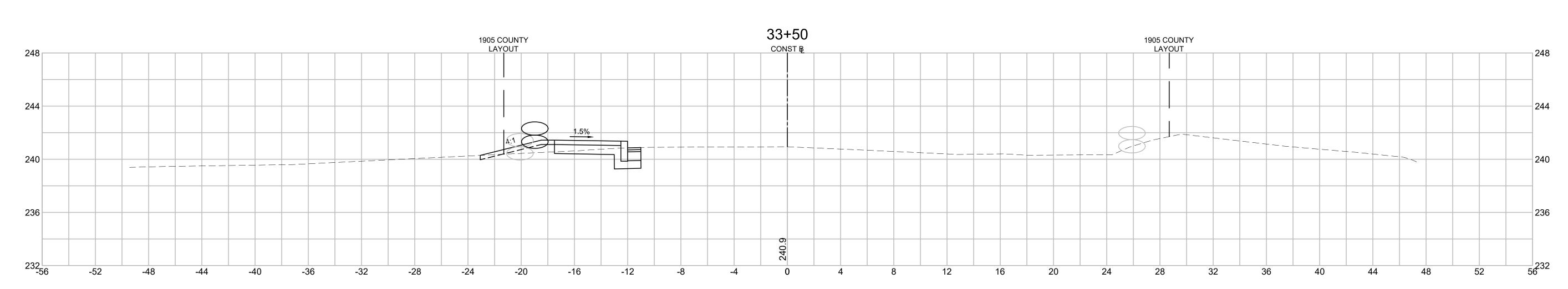


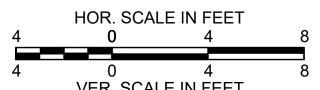












WESTFORD CARLISLE ROAD CROSS SECTIONS - 19 OF 19 SHEET 40 OF 40

